


Curriculum Vitae (as of 2018-07-20)	
<b>Name</b>	Morten Heine Sørensen.
<b>Address</b>	Abildtoften 10, Ganløse, 3660 Stenløse, Denmark.
<b>Age</b>	49, Born December 13, 1968.
<b>Contact</b>	3031 2923 / <a href="mailto:mhs@formalit.dk">mhs@formalit.dk</a>
<b>Languages</b>	Danish and English fluently. Understand Norwegian and Swedish with no difficulty. Understand and speak some German.
	
<b>Profile</b>	<p>I have 20 years of experience with mission-critical software projects in large organizations, covering most disciplines and roles in software development, from requirements over architecture to design, development, test, performance, deployment and implementation in the business, as well as national and international project management. I have also designed and taught numerous courses in academia and industry and have a background as an internationally recognized researcher from the department of Computer Science, University of Copenhagen.</p> <p>I am able to master conceptually complex issues and technologies, and I am a quick learner. I am also very systematic and analytic. Nevertheless, I can speak the language of the users and find business areas interesting and important—the customer domain expert group quickly think of me as one of their own. I am committed, professional, and solution-oriented, and also good at understanding organization and its impact on IT-projects.</p> <p>I try to verify not only that my component works in isolation, but also that it works end-to-end with other parts of the system. I try to clarify vague specifications rather than make silent assumptions (which often turn out to be wrong later). I am focused on maintaining progress under all circumstances. I actively seek to maximize the project's benefit of my participation at all times.</p> <p>I am used to contribute to critical projects. In one project, I designed and programmed components calculating annual vehicle taxes in the billion-DKK order of magnitude. In another project, I lead several geographically dispersed teams developing new versions of a national security infrastructure used by the entire adult population in Denmark. In yet another project I was installed as a turn-around team-lead to bring the largest development team on the site back on track for an important major product launch.</p> <p>In a recent project I was part of an architect team placed directly below the CEO group in a large international, financial organization with 1000s of IT employees. In another recent project I designed and programmed components to handle payments from individuals with debt to public organizations in the billion DKK order of magnitude. It was the second attempt to develop this high profile system; in the first round, in which I did not participate, the customer sued the vendor for almost one billion DKK as the system never got to work in the intended manner. In my current project I am responsible for a migration that did not succeed in the first attempt before my arrival, leading to a significant financial loss for the company. In short time I drastically improved performance of the migration software and team and completed the first migration ahead of time with a third of the human resources offered.</p> <p>In my three most recent customer evaluations, I received 4.0 in “your overall impression of the consultant” on a scale from 0.0 to 4.0 (<b>higher</b> score indicating better performance). In my most recent course evaluation, I received an average of 1.0 over all categories on a scale from 1.0 to 5.0 (<b>lower</b> score indicating better performance). In a recent professional IQ evaluation I was rated top-3% of the Danish population and found to perform equally well in mathematical, linguistic and pictorial tests.</p>
<b>Prospective consulting assignments</b>	<p>I am mainly interested in assignments with the following types of role:</p> <ul style="list-style-type: none"> <li>• Software Developer (Java/JBoss/microservices/AWS/SQL/Oracle/...).</li> <li>• Performance Engineer (measurement and optimization of system performance).</li> <li>• Requirements Engineer (e.g. with epics, user stories and the like).</li> <li>• Technical Project manager/Teamlead (Agile, Scrum, etc.).</li> <li>• Architect (Microservices, SOA, etc.)</li> </ul> <p>Assignments can be</p> <ul style="list-style-type: none"> <li>• Long-term full-time (project duration), e.g. participating in a project that leads to a delivery of some software.</li> </ul>

	<ul style="list-style-type: none"> <li>• Short-term part-time (problem duration), e.g. providing first-aid for a project with some urgent issues or delivering an architecture review at a critical time in a system's life time.</li> </ul>
<b>Academic degrees</b>	<p>1999 Higher degree in Teaching and Learning (“Adjunktpædagogikum”).</p> <p>1997 Ph.D. in Computer Science.</p> <p>1994 M.Sc. in Computer Science.</p> <p>1991 B.Sc. in Mathematics.</p> <p>1990 B.Sc. in Computer Science.</p> <p>Above degrees are all from the University of Copenhagen. High-lights:</p> <ul style="list-style-type: none"> <li>❖ Entire M.Sc. degree obtained with an average of 13 (the theoretical maximum).</li> <li>❖ M.Sc. thesis among nominees for national “Annual best M.Sc. thesis in Computer Science” award.</li> <li>❖ Ph.D. thesis solved an open problem in type theory (partially, but still the best known solution).</li> <li>❖ Theses resulted in many papers in international journals and conferences (~50 papers in total).</li> <li>❖ Published a book on mathematical logic/types in programming in prestigious book series.</li> <li>❖ Gave talks at numerous (&gt;25) international conferences.</li> <li>❖ Reviewed papers for numerous international conferences and journals.</li> </ul>
<b>Positions</b>	<p>2005 - Independent Consultant, company owner Formalit.</p> <p>2000-2005 Senior IT Consultant, IT Practice A/S.</p> <p>1999-2000 Project manager, Terma Elektronik A/S.</p> <p>1998-2001 Software Engineer, IT consultant, Co-founder, Hafnium ApS.</p> <p>1999 External Associate Professor, Dept. of Computer Science, University of Copenhagen.</p> <p>1998 Assistant Professor, Dept. of Computer Science, University of Copenhagen.</p> <p>1997 Post Doc, Dept. of Computer Science, University of Copenhagen.</p> <p>1994 Research Assistant, Dept. of Computer Science, University of Copenhagen.</p> <p>1993 Teaching Assistant, Dept. of Mathematics, University of Copenhagen.</p> <p>1991-1993 Teaching Assistant, Dept. of Computer Science, University of Copenhagen.</p>
<b>Partners</b>	<p>2005 - Netcompany A/S (Consulting on many projects).</p> <p>2012- Lund &amp; Bendsen A/S (Consulting on several projects).</p> <p>2012-2016 Teknologisk Institut (Offering courses).</p> <p>2010-2013 Softwaretest.dk (Performance test course).</p>
<b>Certifications</b>	<p>2006 Sun Certified Web Component Developer 1.4.</p> <p>2006 Sun Certified Business Component Developer.</p> <p>2006 Sun Certified Java Programmer 5.0.</p>
<b>Project experience</b>	<p>Most of the below projects are full time, i.e. 100% allocation. Short projects (3 months or less) were always done alongside a full time project. Longer projects alongside a full time project were done with 50% allocation.</p> <p>Project: National Oil, Gas and Electricity provider/Migration (2017/11 – 2018/12) Description: Migration from SAP to new customer/billing system. Technologies: AWS, PHP, MySQL, MongoDB, Laravel. Role: Team lead, Solution architect, developer, performance engineer.</p>

	<p>Project: National library organization/Solr (2017/10 – 2017/12)  Description: Performance of national system for searching in library books and articles.  Technologies: Solr, java, Postgres, web services, XML, JMeter, YourKit  Role: Performance Engineer.</p> <p>Project: Large governmental organization/ICI (2016/09 – 2018/06)  Description: National system to collect debt to public organizations. Replacement for ship-wrecked EFI-project.  Technologies: Oracle PSRM, Eclipse, Java, Oracle DB, SAFe  Role: Developer and analyst.</p> <p>Project: Large bank/ Architecture (2015/05-2017/12)  Description: Contribute to IT-architecture for very large organization with &gt;1000 IT-employees.  Technologies: Numerous, including Oracle Service Bus 12c, JDeveloper, JAX-RS 2.0, Oracle SOA Suite, Oracle Managed File Transfer, Weblogic server, JEE, web services, REST services, Hadoop, Service Oriented Architecture, Event-Driven Architecture, Business Process Monitoring, Big Data, Authentication &amp; Authorization, SAFe.  Role: Architect placed directly under CEO-level.</p> <p>Project: Platform startup / New functional Programming language (2016/08-2016/12)  Description: Contribute to development of functional programming language and formal logic, where programs are extracted from proofs of specifications.  Technologies:  Role: Designer of programming language.</p> <p>Project: Payment services company / Improvement of Payment dialogue (2016/08-2016/08)  Description: Identify and fix long-time errors in front-end of payment services system.  Technologies: IntelliJ, JBoss WildFly, Maven, Ant, Jira, Git.  Role: Developer.</p> <p>Project: Large bank/ Architecture Review (2014/08-2015/02)  Description: Review of specific application.  Technologies: Weblogic server, MSSQL DB, Eclipse, JEE, Spring, Maven, Apache Wicket, Jenkins.  Role: Architect.</p> <p>Project: Major Danish union/New member system (2014/8-2016/09).  Description: Modernization and further development of existing union member system for new customer.  Technologies: Java EE, JavaScript, Eclipse, JMeter, JUnit, Oracle database, SQL Developer, Weblogic server, Modulus, .Net, C#, dotConnector for Oracle, JetBrains ReSharper, nunit, Visual Studio 2012, CRM, IIS.  Role: Developer, business analyst, team lead</p> <p>Project: Industrial IT company/ Performance test (2014/6)  Description: Assistance with construction and execution of JMeter performance test and interpretation of results.  Technologies: JMeter.  Role: Performance Engineer.</p> <p>Project: Large public organization/ Review of offer (2014/5-2014/8)  Description: Review of offer for new ERP-infrastructure, including SLA.  Technologies: ERP.  Role: Architect/performance engineer.</p> <p>Project: Large IT-organization in Security/IBSS and OCES system release (2014/2-2014/6)  Description: Development of new version of security infrastructure for the public sector (POCES/MOCES) and for the bank sector (IBSS) with cost-reducing improvements.  Technologies: JEE, Eclipse, Subversion, DB2, zOS, zAAP, zIIP, GP, MIPS, Websphere AS, Tomcat, Oracle Virtual Box, YourKit, DB2, SoapUI, JIRA, OpenCMS, SharePoint.  Role: Technical team lead for the teams developing the internal systems IBSS, POCES, and</p>
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	<p>MOCES/NOF. Also team lead for the new OpenCMS installation/solution and for the new SharePoint sub-site.</p> <p>Project: Large public organization/ SOA review (2013/12-2014/3)  Description: Review of SOA-architecture.  Technologies: Oracle Service Bus (OSB), BPEL, DB, weblogic, mainframe, SOA.  Role: Architect.</p> <p>Project: Large IT-organization in Security/OCES system release (2013/11-2014/2)  Description: Development of new version of security infrastructure for the public sector (POCES/MOCES) with cost-reducing improvements.  Technologies: JEE, IntelliJ, Subversion, Oracle DB, Jetty, Tomcat, SoapUI, JIRA, FishEye.  Role: Technical team lead for the POCES and MOCES/NOF development team.</p> <p>Project: Large IT-organization in Security/Revitalisering (2013/05-2013/11)  Description: Analysis and improvement of existing applications in large infrastructure, mainly for the bank sector (IBSS), including performance optimization and MIPS-reduction.  Technologies: JEE, Eclipse, Subversion, DB2, zOS, zAAP, zIIP, GP, MIPS, Websphere AS, Tomcat, Oracle Virtual Box, YourKit, DB2, SoapUI, JIRA.  Role: Analyst, performance tester, developer.</p> <p>Project: Large IT-organization in financial sector/ Service Composer Review (2013/04-2013/06)  Description: Review of .NET application for ESB service orchestrations.  Technologies: Visual Studio, IIS, C#, Altova MapForce, Windows Workflow Designer.  Role: Architect.</p> <p>Project: Large governmental organization/DMR (2010/01 – 2013/04)  Description: Large JEE project.  Technologies: Weblogic server, Weblogic Portal, ALSB, Oracle DB, Eclipse, Weblogic workshop, Enterprise Architect, Axure, Dozer, Web services, XML, XSD, Hibernate, JPA, Beehive, Struts, SoapUI, Gradle.  Role: Developer.</p> <p>Project: Danish business school/ INTER-MOS Performance test (2013/03)  Description: Performance test of system to handle application for studies abroad.  Technologies: JMeter, Badboy, Fiddler.  Role: Performance engineer.</p> <p>Project: Danish business school/ Performance testing internal applications (2012/12)  Description: Counselling regarding performance test process and technique.  Technologies: JMeter.  Role: Performance engineer.</p> <p>Project: European airport/ ATOS Performance Test Review (2012/08-2012/12)  Description: Review of performance test approach for large Java/.Net/C++ installation.  Technologies: JBoss ESB, MS IIS, Oracle DB, Silverlight, web services.  Role: Performance engineer.</p> <p>Project: European railway company/ Performance testing JEE applications (2012/10)  Description: Inspiration lecture on performance testing of JEE applications  Technologies: JEE, JMeter.  Role: Architect, performance engineer, lecturer.</p> <p>Project: Large bank/ Omega Architecture Review (2012/08-2012/09)  Description: Review of JEE application.  Technologies: Weblogic server, Oracle DB, Eclipse, Dozer, JPA, XML, XSD, Hibernate, Spring, GWT, JPA, Maven, domain-driven design, Hudson.  Role: Architect.</p> <p>Project: National sports organization/De3 (2009/10 – 2010/01)  Description: JEE project.  Technologies: Weblogic server, oracle ADF, JMeter.</p>
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	<p>Role: Developer.</p> <p>Project: Large mobile operator/Opus2 (2009/02 – 2009/10)  Description: JEE project.  Technologies: Weblogic server, weblogic integration, JBoss, JMeter, Fiddler, Oracle, Eclipse, XML, XSD, XSLT, Visual Studio, PerForce, YourKit java profiler, SoapUI, Toad, SQL Developer  Role: Performance manager: measuring, analyzing, and improving performance of large application platform.</p> <p>Project: Large mobile operator/PSTN (2008/07 – 2009/02)  Description: JEE project.  Technologies: JBoss Application server, JBoss ESB, Smooks transformations, EJB 3.0, Hibernate, JPA, XML, XSLT, Perl, PL/SQL, Eclipse, Ant, Visual Basic, the Opus application.  Role: Developer, including performance optimizations.</p> <p>Project: Large governmental organization/Portal framework (2007/7 – 2008/06).  Description: Portal framework.  Technologies: AquaLogic Service Bus, Weblogic Portal, Autonomy (IDOL), XML, XSD, XMLBeans, XSLT, XQuery, Weblogic Workshop/Eclipse, Subversion, JUnit, Toad, SQL Developer, Ant, JMS, EJB, web services, WSDL, JAX-RPC, Clientgen, Weblogic controls, SOA, object-relational mapping, LDAP (JXplorer), SoapUI, J2SE, Struts, pageflows.  Role: Developer, incl. performance optimization.</p> <p>Project: Large pensions company/Service Infrastructure (2007/1 – 2007/6).  Description: continuation of below-mentioned project.  Role: Developer, occasionally team lead.</p> <p>Project: Large pensions company/Kunde Portal (2006/7 – 2006/12)  Description: Asynchronous/synchronous communication protocol, further development of self-service portal.  Technologies: XSD, XMLBeans, XQuery, XPath, SOA, IntelliJ IDEA, Weblogic, CVS, JUnit, XMLUnit, Hermes, Oracle, Toad, Maven, J2SE, JMS, JMX, EJB, EJGen, JSP, JNDI, Spring, Cobol/host.  Role: Developer and production support.</p> <p>Project: Large pensions company/Service Infrastructure (2006/1 – 2006/7)  Description: SOA, XML-transformations, implementation of infrastructure for XQuery-based transformations.  Technologies: XML, XSD, XML beans, XQuery, XPath, Enterprise service bus, IntelliJ IDEA, Weblogic 8.1, CVS, JUnit, XMLUnit, Hermes, Oracle, Toad, Maven, J2SE, JMS, JMX, EJB, EJGen, JSP, JNDI, Spring, Cobol/host, Quality Center.  Role: Developer, occasionally team lead.</p> <p>Project: Large logistics company/USI (2005/11 – 2005/12)  Description: Update of authentication/authorization infra-structure for internal users.  Technologies: C++, Tuxedo, CVS, Visual Source safe, Visual Studio, Oracle, Active Directory  Role: Design of revised solution, development of part of revised solution.</p> <p>Project: Large logistics company/METS (2005/09 – 2005/11)  Description: Performance test of intranet application  Technologies: Eclipse, Java, fiddler, subversion, subclipse, JavaScript, ASP.net  Role: Java developer</p> <p>Project: Large logistics company/Mars implementation (2005/01 – 2005/08)  Description: Implementation in business of system for pricing container transports.  Technologies: C++, MFC, Tuxedo, CVS, Visual Source safe, Visual Studio, Oracle, SQL  Role: Assistance with use of global system, data migration, adaptation of business</p> <p>Project: Large logistics company/Service Contracts (2004/01 - 2004/12)  Description: Development of version 2 for handling service contracts related to container transports.  Technologies: Clear Case, C++, MFC, Tuxedo, CVS, Visual Source safe, Visual Studio, Oracle, SQL, PL/SQL</p>
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	<p>Role: Definition of Use cases with the business, C++ Developer</p> <p>Project: Large logistics company/Mars Rules (2003/07 - 2003/12)  Description: Development of system for handling surcharges related to container transports.  Technologies: C++, MFC, Tuxedo, CVS, Visual Source safe, Visual Studio, Oracle, SQL  Role: Developer, team lead, performance profiling and optimization.</p> <p>Project: Large logistics company/Mars Tariff Engine (2003/01 - 2003/06)  Description: Development of system for automatic pricing of container shipments.  Technologies: C++, MFC, Tuxedo, CVS, Visual Source safe, Visual Studio, Oracle, SQL, PL/SQL  Role: Developer</p> <p>Project: Large bank/Midas System Platform (2002/06 - 2002/12)  Description: Development of Corporate Netbank.  Technologies: J2EE, weblogic, Tieteo Enator portal, DB2, MQ Series, Weblogic portal server, Mainframe  Role: project manager</p> <p>Project: Large bank/Midas Authentication &amp; Authorization (2002/01 - 2002/06)  Description: Development of Security Infrastructure for Corporate Netbank.  Technologies: J2EE, weblogic, Tieteo Enator portal, DB2, MQ Series, Weblogic portal server, Mainframe  Role: project manager</p> <p>Project: Large bank/Secure Email (2001/09 - 2001/12)  Description: Development of secure email solution.  Technologies: UML, use cases  Role: Development of use cases with business.</p> <p>Project: Bank/architecture review (2001/08 - 2001/08)  Description: New system for house mortgages.  Technologies: Java, EJB.  Role: architect.</p> <p>Project: Large governmental organization/Import (2001/04 - 2001/07)  Description: system for online declaration of VAT.  Technologies: Java, LDAP, Sybase, Weblogic, Visual Age for Java, JProbe, Stored procedures  Role: Developer (upgrade of security infrastructure. Performance profiling and optimization).</p> <p>Project: Ecommerce (2001/02 - 2001/04)  Description: Development of E-commerce site.  Technologies: JSP, servlets, Oracle  Role: Use cases + Java developer.</p> <p>Project: Large bank/netbank (2001/01 - 2001/01)  Description: Development of private net bank.  Technologies: JSP, servlets, old backend systems  Role: Contribution to use cases.</p> <p>Project: Hafnium/AnnoDomini (1998/01 - 2000/12)  Description: Development of tool for Y2K conversion of Cobol programs in start-up company.  Technologies: ML, YACC, type theory, Cobol  Role: Development of Cobol parser, development of big regression test</p> <p>Project: TERMA/IFICS (1999/01 - 2000/12)  Description: Research &amp; Technology project in European Defence industry. Advanced GUI for command- &amp; control systems (display of planes, ships, and other targets). Decision support systems (automatic control of weapon systems, navigation, etc.)  Five companies from the Netherlands, Italy, Denmark, Greece  Technologies: Java, Swing  Role: Architect, researcher, later project manager.</p>
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	Project: TERMA/PROMIS (1999/01 - 2000/12) Description: Research & Technology project in European Defence industry. Development of a configurator (a system that permits construction and pricing of a configurable product) to support purchasing from product lines. Companies from France, Italy, Turkey, Denmark. Technologies: Java, ILOG Rules, OO database Role: Researcher, project manager			
<b>Technology experience</b>	<b>Topic</b>	<b>Experience (years)</b>	<b>Latest experience</b>	<b>Level</b>
	PHP	2	2018	Good knowledge
	AWS	2	2018	Some knowledge
	MySQL	2	2018	Experienced
	API Management	2	2017	Experienced
	Solr	1	2017	Some knowledge
	SAFe	2	2017	Good knowledge
	Hadoop eco system	3	2017	Some knowledge
	Apache Kafka	3	2017	Some knowledge
	Bank systems	7	2017	Expert
	Insurance systems	2	2007	Good knowledge
	Security	6	2017	Very Experienced
	Logistics systems	3	2005	Expert
	User test	7	2016	Expert
	Performance test	11	2018	Expert
	Jmeter	5	2013	Expert
	Database Design	12	2018	Expert
	Requirements specification	11	2017	Expert
	Course Design/Teaching	11	2017	Expert
	Project management	6	2016	Very Experienced
	System test	11	2017	Expert
	Software development	19	2018	Expert
	Project models	9	2017	Expert
	Erwin	1	2004	Good knowledge
	Oracle	14	2017	Expert
	SQL	15	2018	Expert
	PL/SQL	7	2016	Expert
	DB2	3	2014	Good knowledge
	CICS/Cobol/Host	2	2007	Good knowledge
	http	9	2015	Expert
	Agile projects	11	2017	Expert
	Extreme programming	6	2009	Expert
	Use cases	8	2013	Expert
	User Stories	3	2018	Expert
	Autonomy	2	2008	Experienced
	Websphere Application Server	2	2014	Some knowledge
	Weblogic Server	15	2016	Expert
	Weblogic Portal Server	4	2010	Good knowledge
	AquaLogic SB/ Oracle SB	8	2017	Expert
	Oracle SOA Suite	4	2017	Very Experienced
	JBoss	4	2016	Expert

Tomcat	2	2014	Some knowledge
Tuxedo	4	2009	Experienced
J2EE	16	2017	Expert
Hibernate/JPA	8	2017	Expert
C++	4	2004	Very Experienced
C#	1	2014	Good knowledge
Java	16	2017	Expert
EJB (Enterprise Java Beans)	6	2015	Expert
JMS	5	2016	Very Experienced
MQ Series	2	2016	Some knowledge
HTML	5	2006	Experienced
Java Servlets	2	2003	Experienced
JSP (Java Server Pages)	8	2016	Expert
JavaScript	1	2005	Good knowledge
Ant	4	2016	Good knowledge
Maven/Maven2	3	2016	Experienced
Gradle	6	2016	Some knowledge
MFC	3	2004	Experienced
UML	6	2010	Expert
XML	13	2017	Expert
XSD	11	2017	Expert
XSLT	9	2016	Expert
XQuery	8	2015	Expert
Web services	12	2017	Expert
RESTful web services	3	2017	Experienced
JSON	3	2017	Experienced
Microservices	3	2017	Experienced
Spring	2	2007	Good knowledge
BEA Weblogic Workshop	6	2011	Very Experienced
Clear Case	3	2007	Experienced
Clear Quest	1	2003	Some knowledge
CVS	6	2007	Very experienced
Subversion	11	2017	Expert
Git	2	2017	Some knowledge
Eclipse	10	2017	Expert
IntelliJ Idea	4	2018	Expert
Nunit	1	2014	Good knowledge
Junit	9	2014	Expert
Microsoft Visual Studio	6	2015	Experienced
Rational Rose	2	2000	Good knowledge
Testdirector	2	2006	Some knowledge
Jira	8	2017	Experienced
TestTrack	1	2004	Some knowledge
Toad	4	2009	Expert
Visual Age for Java	2	2001	Good knowledge



	Visual SourceSafe	2	2003	Experienced
	JDeveloper	1	2015	Good knowledge
<b>Teaching experience</b>	<p>Apart from below courses, also experience with supervision of M.Sc. projects/theses (&gt;10) and Ph.D. thesis.</p> <p>Course: Introduction to XML (latest in 2015).  Description: Introduction to XML including schemas and transformations.  Duration: 1 or 3 days.  Level: Intermediate.  Place: Teknologisk Institut  Role: Lecturer.</p> <p>Course: Introduction to Performance test (of JEE systems) (Latest in 2014).  Description: Practical introduction to performance-test of enterprise applications.  Duration: 2 or 3 days.  Level: Advanced.  Place: Teknologisk Institut/At customer site.  Role: Lecturer.</p> <p>Course: Use cases (Latest in 2010).  Description: Theoretical/Practical introduction to use cases.  Duration : 2 days, taught multiple times.  Level: Basic.  Place: Organisator (part of KMD), Værdipapircentralen, Top-Danmark.  Role: Lecturer.</p> <p>Course: Introduction to UML 2.0 (2008).  Description: Theoretical/Practical introduction to UML.  Duration : 2 days.  Level: Basic.  Place: FIH Erhvervsbank  Role: Lecturer.</p> <p>Course: Optimization of declarative programs (1997-1999)  Description: Automatic improvement of functional and logic programs.  Duration : regular 1 semester or intensive summer school course, taught multiple times.  Level: University M.Sc./Ph.D.  Place: Department of Computer Science, University of Copenhagen.  Role: Lecturer.</p> <p>Course: Normalization in Lambda-calculus and type theory (1998).  Description: Specialized course in Lambda-calculus and type theory.  Duration: 2 days.  Level: University M.Sc./Ph.D.  Place: Department of Computer Science, University of Århus (BRICS).  Role: Lecturer.</p> <p>Course: The Curry-Howard Isomorphism (1997-1999)  Description: Connctions between logic and computation, types in programming languages.  Duration : regular 1 semester or intensive summer school course, taught multiple times.  Level: University M.Sc./Ph.D.  Place: Department of Computer Science, University of Copenhagen, and ESSLLI Summer School Utrecht.  Role: Lecturer.</p> <p>Course: Introduction to Supercompilation (1998)  Description: A technique to automatically improve efficiency of programs.  Duration : intensive summer school course.  Level: University M.Sc./Ph.D.  Place: Department of Computer Science, University of Copenhagen.</p>			

	<p>Role: Lecturer.</p> <p>Course: Type-free lambda-calculus (1997)  Description: A very simple functional programming language.  Duration : intensive summer school course.  Level: University M.Sc./Ph.D.  Place: Department of Computer Science, University of Copenhagen.  Role: Lecturer.</p> <p>Course: Computer Science 2 (1999)  Description: Programming languages.  Duration : regular 1 semester.  Level: University B.Sc.  Place: Department of Computer Science, University of Copenhagen.  Role: Lecturer.</p> <p>Course: Computer Science 1P (1991-1993)  Description: Logic and functional programming languages, databases, graph algorithms, complexity and Computability theory.  Duration : regular 1 semester.  Level: University B.Sc.  Place: Department of Computer Science, University of Copenhagen.  Role: teaching assistant.</p> <p>Course: Computer Science A (1992)  Description: Pascal programming, linear programming.  Duration : regular 1 semester.  Level: University B.Sc.  Place: Department of Mathematics, University of Copenhagen.  Role: teaching assistant.</p>
<p><b>Publications</b></p>	<p><i>(Common abbreviations used below for international conferences and journals Hard-copy of papers can be provided on request. See also</i>  <a href="http://citeseerx.ist.psu.edu/search?q=Morten+Heine&amp;t=auth&amp;sort=date">http://citeseerx.ist.psu.edu/search?q=Morten+Heine&amp;t=auth&amp;sort=date</a> or  <a href="http://www.informatik.uni-trier.de/~ley/db/indices/a-tree/s/S=oslash=rensen:Morten_Heine.html">http://www.informatik.uni-trier.de/~ley/db/indices/a-tree/s/S=oslash=rensen:Morten_Heine.html</a> )</p> <p>Research interests:</p> <ul style="list-style-type: none"> <li>• Program analysis and transformation: deforestation, partial evaluation, supercompilation, tupling, partial deduction, termination, theory of program transformers.</li> <li>• Lambda-calculus and type theory: reduction, weak and strong normalization, the Curry-Howard Isomorphism.</li> <li>• Software engineering: industrial-scale program analyses and transformations, object-oriented design and analysis, use cases, performance engineering.</li> </ul> <p>2014 Geoff Hamilton, Morten Heine Sørensen: Local Driving in Higher-Order Positive Supercompilation via the Omega-theorem. VPT 2014.</p> <p>2013 Morten Heine Sørensen: Use Case-Driven Performance Engineering without “Concurrent Users.” ICPE 2013.</p> <p>2010 Morten Heine Sørensen, Pawel Urzyczyn: A syntactic embedding of predicate logic into second-order propositional logic. Notre Dame Journal of Formal Logic 51( 4):457-473, 2010.</p> <p>2008 Morten Heine Sørensen, Pawel Urzyczyn: Strong Cut-Elimination in Sequent Calculus Using Klop’s iota-translation and Perpetual Reductions. Journal of Symbolic Logic 73(3):919-932 (2008).</p> <p>2007 Morten Heine Sørensen, Pawel Urzyczyn: Sequent Calculus, Dialogues, and Cut-Elimination. In Erik Barendsen, Herman Geuvers, Venanzio Capretta, Milad Niqui (Eds.): Reflections on Type Theory, Lambda Calculus, and the Mind. Essays Dedicated to Henk Barendregt on the Occasion of his 60th Birthday, Radboud University Nijmegen (2007).</p> <p>2007 Morten Heine Sørensen: A Note on Shortest Developments. Logical Methods in Computer Science 3(4) (2007).</p>

2006	Morten Heine Sørensen, Pawel Urzyczyn: Lectures on the Curry-Howard Isomorphism, Volume 149 of Studies in Logic and the Foundations of Mathematics, Elsevier Science, ISBN 0444520775 (2006).
2003	Inge Li Gørtz, Signe Reuss, Morten Heine Sørensen: Strong Normalization from Weak Normalization by Translation into the Lambda-I-Calculus. Higher-Order and Symbolic Computation 16(3): 253-285 (2003)
2002	Jens P. Secher, Morten Heine Sørensen: From checking to inference via driving and dag grammars. PEPM 2002: 41-51
2002	Morten Heine Sørensen, Jens P. Secher: From Type Inference to Configuration. The Essence of Computation 2002: 436-472
2002	Peter Møller Neergaard, Morten Heine Sørensen: Conservation and Uniform Normalization in Lambda Calculi with Erasing Reductions. Inf. Comput. 178(1): 149-179 (2002)
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2001	Gilles Barthe, John Hatcliff, Morten Heine Sørensen: Weak normalization implies strong normalization in a class of non-dependent pure type systems. Theor. Comput. Sci. 269(1-2): 317-361 (2001)
2000	Gilles Barthe, Morten Heine Sørensen: Domain-free pure type systems. J. Funct. Program. 10(5): 417-452 (2000)
2000	Danny De Schreye, Robert Glück, Jesper Jørgensen, Michael Leuschel, Bern Martens, Morten Heine Sørensen: Erratum to: "Conjunctive Partial Deduction: Foundations, Control, Algorithms and Experiments". J. Log. Program. 43(3): 265 (2000)
2000	Morten Heine Sørensen: Convergence of program transformers in the metric space of trees. Sci. Comput. Program. 37(1-3): 163-205 (2000)
1999	Jens P. Secher, Morten Heine Sørensen: On Perfect Supercompilation. Ershov Memorial Conference 1999: 113-127
1999	Peter Harry Eidorff, Fritz Henglein, Christian Mossin, Henning Niss, Morten Heine Sørensen, Mads Tofte: AnnoDomini: From Type Theory to Year 2000 Conversion Tool. POPL 1999: 1-14
1999	Peter Harry Eidorff, Fritz Henglein, Christian Mossin, Henning Niss, Morten Heine Sørensen, Mads Tofte: AnnoDomini in Practice: A Type-Theoretic Approach to the Year 2000 Problem. TLCA 1999: 6-13
1999	Gilles Barthe, John Hatcliff, Morten Heine Sørensen: CPS Translations and Applications: The Cube and Beyond. Higher-Order and Symbolic Computation 12(2): 125-170 (1999)
1999	Femke van Raamsdonk, Paula Severi, Morten Heine Sørensen, Hongwei Xi: Perpetual Reductions in Lambda-Calculus. Inf. Comput. 149(2): 173-225 (1999)
1999	Danny De Schreye, Robert Glück, Jesper Jørgensen, Michael Leuschel, Bern Martens, Morten Heine Sørensen: Conjunctive Partial Deduction: Foundations, Control, Algorithms, and Experiments. J. Log. Program. 41(2-3): 231-277 (1999)
1998	Morten Heine Sørensen: Convergence of Program Transformers in the Metric Space of Trees. MPC 1998: 315-337
1998	Morten Heine Sørensen, Robert Glück: Introduction to Supercompilation. Partial Evaluation 1998: 246-270
1998	Helmut Seidl, Morten Heine Sørensen: Constraints to Stop Deforestation. Sci. Comput. Program. 32(1-3): 73-107 (1998)
1998	Morten Heine Sørensen: Properties of Infinite Reduction Paths in Untyped lambda-Calculus. TSLLC 98.
1998	We have world-class IT-research (in Danish). In ComputerWorld 20, May 29, 1998 (with changes). CW 98.
1998	AnnoDomini: From Type Theory to Year 2000 Conversion Tool. In ERCIM News 36.

	<p>ERCIM 98.</p> <p>1997 Gilles Barthe, Morten Heine Sørensen: Domain-Free Pure Type Systems. LFCS 1997: 9-20</p> <p>1997 Gilles Barthe, John Hatcliff, Morten Heine Sørensen: Reflections on Reflections. PLILP 1997: 241-258</p> <p>1997 Helmut Seidl, Morten Heine Sørensen: Constraints to Stop Higher-Order Deforestation. POPL 1997: 400-413</p> <p>1997 Gilles Barthe, John Hatcliff, Morten Heine Sørensen: A notion of classical pure type system. Electr. Notes Theor. Comput. Sci. 6: 4-59 (1997)</p> <p>1997 Morten Heine Sørensen: Strong Normalization from Weak Normalization in Typed Lambda-Calculi. Inf. Comput. 133(1): 35-71 (1997)</p> <p>1997 Gilles Barthe, John Hatcliff, Morten Heine Sørensen: CPS-Translations and Applications: the Cube and Beyond. CW 97.</p> <p>1997 Morten Heine Sørensen: Hilbert's Tenth Problem. Textbook chapter 97.</p> <p>1997 Normalization in Lambda-Calculus and Type Theory. PhD Thesis 97.</p> <p>1996 Morten Heine Sørensen: Efficient Longest and Infinite Reduction Paths in Untyped Lambda-Calculi. CAAP 1996: 287-301</p> <p>1996 Robert Glück, Morten Heine Sørensen: A Roadmap to Metacomputation by Supercompilation. Dagstuhl Seminar on Partial Evaluation 1996: 137-160</p> <p>1996 Michael Leuschel, Morten Heine Sørensen: Redundant Argument Filtering of Logic Programs. LOPSTR 1996: 83-103</p> <p>1996 Robert Glück, Jesper Jørgensen, Bern Martens, Morten Heine Sørensen: Controlling Conjunctive Partial Deduction. PLILP 1996: 152-166</p> <p>1996 Morten Heine Sørensen, Robert Glück, Neil D. Jones: A Positive Supercompiler. J. Funct. Program. 6(6): 811-838 (1996)</p> <p>1995 Morten Heine Sørensen, Robert Glück: An Algorithm of Generalization in Positive Supercompilation. ILPS 1995: 465-479</p> <p>1995 Kristian Nielsen, Morten Heine Sørensen: Call-By-Name CPS-Translation as a Binding-Time Improvement SAS 1995: 296-313</p> <p>1995 Morten Heine Sørensen: Embeddings and Infinite Reduction Paths in Untyped Lambda-Calculus. WOT 95.</p> <p>1994 Morten Heine Sørensen: Grammar-Based Data-Flow Analysis to Stop Deforestation. CAAP 1994: 335-351</p> <p>1994 Morten Heine Sørensen, Robert Glück, Neil D. Jones: Towards Unifying Partial Evaluation, Deforestation, Supercompilation, and GPC. ESOP 1994: 485-500</p> <p>1994 Robert Glück, Morten Heine Sørensen: Partial Deduction and Driving are Equivalent. PLILP 1994: 165-181</p> <p>1994 Jakob Rehof, Morten Heine Sørensen: The Lambda<sub>Delta</sub>-calculus. TACS 1994: 516-542</p> <p>1994 Turchin's Supercompiler Revisited. Master's Thesis 94.</p> <p>1993 Morten Heine Sørensen: A New Means of Ensuring Termination of Deforestation GCW-ILPS 93.</p>
<p><b>Academic events</b></p>	<ul style="list-style-type: none"> <li>• VPT-2016 (2016, Program committee member).</li> <li>• META-2016 (2016, Program committee member).</li> <li>• VPT-2014 (2014, Program committee member).</li> <li>• META-2014 (2014, Program committee member).</li> <li>• VPT-2013 (2013, Program committee member).</li> <li>• META-2012 (2012, Program committee member).</li> <li>• ProDi - Proofs and Dialogues (2011, Invited speaker).</li> <li>• META-2010 (2010, Program committee member).</li> </ul>

	<ul style="list-style-type: none"> <li>• Second Symposium on Programs as Data Objects (2001, Program committee member).</li> <li>• ACM Sigplan Workshop on Partial Evaluation and Semantics-Based Program Manipulation (2000, Program committee member).</li> <li>• DIKU Summer School on Partial Evaluation (1998, chair).</li> <li>• Participation in numerous conferences (1993-).</li> <li>• Reviewing for numerous journals (1993-).</li> </ul>
<b>Customers</b>	<p>Large IT-organization in Security: NETS.  Large IT-organization in financial sector: SDC.  Large governmental organization: Skat.  Large public organization: Københavns kommune.  National sports organization: Danmarks Idrætsforbund.  Large mobile operator: Telenor.  Large pensions company: PFA.  Large logistics company: AP Møller (Mærsk Line).  Large bank: Nordea.  Bank: BEC.  European airport: Kastrup lufthavn  European railway company: DSB  Danish business school: Copenhagen Business School.  Industrial IT company: Prevas.  Major Danish union: Dansk Metal.  Platform startup: Cacaoweb.  Payment services company: DIBS.  National library organization: DBC.  National Oil, Gas and Electricity provider: DONG (aka Ørsted) / Obviux.</p>