

# Ian Cottingham

Github: <https://github.com/icotting>

I am a senior software architect with over 17 years of full-stack engineering experience designing, developing, and leading enterprise software development efforts and organizations in startup, institutional research, academic, and industry environments.

## Experience

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Jeffrey S. Raikes School of Computer Science and Management, University of Nebraska–Lincoln, Lincoln, Nebraska

**Associate Director for Design Studio and Assistant Professor of Practice** - May 2012 – Present

Director of computer science and management capstone program, responsible for positioning the program as a leader in software product development through design, engineering, and research.

- Responsible for Design Studio organization consisting of 130 faculty, staff, and student developers building software for 22 industry partners annually.
- Served as Associate Director of the Raikes School from July 1 to December 31, 2015, responsible for academic and non-academic operations of the School during the transition to a new executive director.
- Grew Design Studio revenue by 80% to \$900,000 annually, and managed industry relationships with over 30 companies including Microsoft, IBM, Mutual of Omaha, Cerner, and HDR.
- Restructured curriculum and engineering process to focus on rapid release-driven software development, enhancing the scope and quality of software developed in Design Studio.
- Lead architect and developer of an ASP.NET MVC 5 application for visualizing over 3Tb of high-resolution photographs (<http://images.plattebasintimelapse.org>).
- Program director for computer science program in the Raikes School, teaching Software Engineering, Software Architecture, Design Thinking, Innovation Processes, and Programming Language Concepts.
- Responsible for the strategic positioning of the Raikes School as a leader in Design Thinking: co-developed a Design Thinking course and served as co-team lead on a partnership with Stanford through the Pathways to Innovation program.

Red Brain inc., Lincoln, Nebraska

**President** - December 2009 – December 2015.

Co-founder and chief executive of a spin-off venture from the University of Nebraska to commercialize software products from research generated intellectual property. Acquired in 2015.

- Architect of law enforcement software to identify persons of interest in the field deployed in AWS EC2 environment.
- Lead developer of Java EE application back-end and iOS mobile application front-end.
- Successfully negotiated intellectual property license from University of Nebraska to bring the software to market, a software reseller agreement to increase speed of market entry of the product, and final sale of the intellectual property to a competitor.

Department of Computer Science and Engineering, University of Nebraska–Lincoln, Lincoln, Nebraska

**Chief Software Architect** - January 2003 – May 2012

Lead architect and director of an interdisciplinary research group formed to provide professional software engineering services to grant funded research throughout UNL.

- Responsible for a software development organization of 9 professional engineers developing software products to support grant funded research. The organization helped secure over \$10 million of funding between 2003 and 2009.
- Architect and lead developer of a Java EE framework for deployment of multiple GIS-based decision support applications into a common application base, integrating with legacy CORBA components, GIS systems, and data repositories (<http://greenleaf.unl.edu/downloads/SOA.pdf>).
- Architect of a federated data discovery system for integrating large taxonomic and genomic data sets implemented using Scala and Lift (<http://biofinity.unl.edu>).
- Architect and lead developer of a Java EE web-application to integrate historical datasets describing the growth of 19<sup>th</sup> century America (<http://auroraproject.unl.edu>).

- Lead author of a data specification for the Association of Information Referral Systems in partnership with the Nebraska Public Policy Center.
- Led the development effort for implementing both application and framework architectures and created user-level web application interfaces for multiple research projects.
- Supervised graduate student research projects and taught Introduction to Software Engineering.

OrangePeel inc., Lincoln, Nebraska

**President** - March 2003 – December 2008

Co-founder of a software startup developing knowledge management software with a focus on industry process and workflow automation.

- Architect and lead developer of an insurance policy management system with a Java (Servlets, JPA / Hibernate) back-end and SWT/Eclipse SWT front-end.

IBM Global Services, Somers, New York

**Preprofessional Engineer** - June 1998 – June 2002

Lead developer on a team in IBM Global Services Knowledge Management, responsible for web tier application specification and implementation.

- Oversaw development of several iterations of the web front-end of a Java and Lotus Domino based web portal for tracking consulting engagements.
- Designed and developed web application interface and stand-alone application back-end prototype of enhanced information portal.
- Led interface development effort, creating application interface designs and testing procedures for an information system to support strategic intelligence activities in Global Services.
- Co-authored specification documents and supervised implementation of front-end components for a range of knowledge management web applications built using Java Servlets and JSP.

## Education

University of Nebraska–Lincoln, **Doctor of Philosophy**, December 2018 (expected)

Discipline: Computer Engineering

University of Nebraska–Lincoln, **Master of Science**, August 2009

Discipline: Computer Science.

Thesis: A Service-Oriented Architecture for Data-Driven Decision Support Systems

University of Nebraska–Lincoln, **Bachelor of Science**, May 2002

Double Major: Computer Science and German

## Skills

Tools	Techniques	Qualities
<ul style="list-style-type: none"> <li>• Java, Java EE, JAX-RS, JPA, JSF, JSP, Servlets, JNDI, IIOP, JAXB, EJB, CDI, Maven, Ant, Glassfish, JBoss, Tomcat</li> <li>• iOS using Objective-C</li> <li>• MySQL, SQL Server</li> <li>• Node.js, Python, R</li> <li>• Scala, Lift</li> <li>• ASP.NET MVC, WPF, WCF Web API, ADO.NET</li> <li>• Microsoft Azure, Amazon Web Services</li> <li>• Github, Stash, Bitbucket, and Jira</li> </ul>	<ul style="list-style-type: none"> <li>• Full-stack web application development</li> <li>• Distributed systems architecture</li> <li>• Big data</li> <li>• Knowledge management</li> <li>• Agile and test-driven development</li> <li>• Rational Unified Process</li> <li>• Program analysis</li> <li>• Design Thinking</li> <li>• Lean Startup</li> </ul>	<ul style="list-style-type: none"> <li>• Self-directed and passionate about software</li> <li>• Strong leadership and communication skills</li> <li>• Team player</li> <li>• Design thinker and maker</li> <li>• Life-long learner and mentor</li> </ul>

