

Ian Cottingham

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

I am a senior software engineer, engineering manager, and professor with nearly 20 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

Amazon Web Services, Seattle, WA

Software Development Manager - January 2017 – Present.

Manager of Amazon Web Services team designing and building automation services for managing host lifecycle in the EC2 fleet.

- Managed a team of 9 engineers and 1 TPM.
- Responsible for developing a vision for the Host Lifecycle Management team, integrating our services within EC2 and designing new services to address identified business problems.
- Successfully launched a service to refresh the entire EC2 fleet over deterministic time intervals.
- Responsible for utilization of previous generation EC2 instance families.
- Member of the EC2 Capacity Lifecycle leadership team.

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

Director of Design Studio and Assistant Professor of Practice - May 2012 – January 2017.

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 engineers building software for 25 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 from \$400,000 to \$900,000 annually, increasing project capacity from 12 to 25, and managed industry relationships with over 45 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.
- Led the development of an ASP.NET MVC 5 application for visualizing over 3Tb of high-resolution photographs.
- 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.

- Principal engineer responsible for:
 - a law enforcement software system (Java EE backend / iOS client) to identify persons of interest in the field deployed in AWS EC2 environment;
 - an ASP.NET MVC asset management system used to track vehicles and city employees. The system processed ~15 requests per second under normal operating conditions.
- Successfully negotiated intellectual property license from University of Nebraska, a software reseller agreement to increase speed of market entry of the products, and a sale of IP assets to a competitor.

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

Software Architect - January 2003 – May 2011

Managing Director, Innovation Lab – May 2011 – May 2012

Principal engineer and director of an interdisciplinary research group formed to provide professional software engineering services to grant funded research throughout UNL and Managing Director of capstone program.

- 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 engineer 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 (<https://github.com/icotting/The-GreenLeaf-Project>).
- Architect of a federated data discovery system for integrating large taxonomic and genomic data sets implemented using Scala and Lift (<https://github.com/Biofinity/Biofinity>).
- Architect and lead engineer of a Java EE web-application to integrate historical datasets describing the growth of 19th century America (<https://github.com/icotting/The-Aurora-Project>).
- 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.

IBM Global Services, Somers, New York

Preprofessional Engineer - June 1998 – June 2002

Remained part time engineer after freshman year summer internship on a team in IBM Global Services Knowledge Management and later Strategic Intelligence, responsible for web tier application specification and implementation.

Education

University of Nebraska–Lincoln, **Master of Science** Discipline: Computer Science.

University of Nebraska–Lincoln, **Bachelor of Science** Double Major: Computer Science and German

University of Nebraska–Lincoln, **Doctor of Philosophy, (Incomplete)** Discipline: Computer Engineering.

Skills

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

Curriculum vitae and references available upon request.