Joan Lindsay Orr

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Executive Summary

I am a full-stack engineer with decades' experience in the IT and university sectors building applications used by millions. I work with stakeholders across the board in situations of high complexity and ambiguity to deliver beautiful, robust solutions to business needs.

Education

PhD Mathematics
King's College,
University of London

Certificate of Advanced Study in Mathematics
University of Cambridge
With Distinction

BSc Mathematics
Imperial College,
University of London
First Class Honours

Status

Based in the UK, I am authorized to live and work in the US and the UK.

Core Coding Languages

Java, Python,
TypeScript/JavaScript
see: http://joanorr.com#skills

Highlights

- **Full-stack engineer** equally adept at building beautiful front ends, data transformation APIs or back-end solutions.
- **PhD in mathematics** with significant accomplishments as **researcher**, **start-up principal, tech lead**, **IC SWE**, and **educator**

Professional Experience

Google UK: Core/EngEDU

Senior Software Engineer   2017 - present

- Led teams of 3-5 SWEs to launch multiple internal educational web-apps on-schedule and within budget.
- Set technical direction by writing and critiquing design documents, establishing patterns, unblocking pain points, and implementing complex features.
- Mentored and on-boarded junior engineers.
- 37 spot bonuses/peer bonuses

Google: Google Research/EngEDU

Senior Software Engineer   2013 - 2017

- Front-end tech lead for platform powering large external educational projects including Applied Digital Skills and CS First serving millions.
- Led renovation of research.google.com to provide a modern responsive look to the public face of Google Research.
  see: http://joanorr.com#rgc
- Front-end tech lead on Google's Course Builder, an open-source platform for delivering education at massive scale.
  see: http://joanorr.com#cb

Google: GeoCommerce

Senior Software Engineer   2011 - 2012

- Software engineer and API/server lead on Google's unified in-page web buy-flow.
  see: http://joanorr.com#wallet
- Led the design and development of the REST API service providing a common buy-flow experience across key Google web properties such as Google Play, YouTube, Google Offers, and Google Drive.
- Product was used by external merchants such as Rovio and Kabam and processed over $1bn transactions over lifespan.

University of Nebraska - Lincoln: Department of Mathematics

Professor and Vice Chair at R1 university   1991 - 2011

- **Full Professor 2001 - 2011**; Associate Professor 1995 - 2001; Assistant Professor 1991 - 1995

- Twice appointed **Departmental Vice Chair**; planned academic program taught by 100+ faculty/GTAs to 3,000+ students, hired and mentored 70+ graduate teaching assistants.
- Author of **25+ research papers** in premier refereed journals.
  see: http://joanorr.com#pubs
- Taught 50+ university courses running the gamut of the undergraduate and graduate mathematics curriculum.
  see: http://joanorr.com#teach
- Teaching awards from the department, the college, and the university parents' association.
- Delivered almost 100 colloquia, invited seminars, and conference talks at national and international conferences.
- Principal investigator (PI) on grants and contracts totalling over $1m, including multiple NSF individual researcher grants.

see: http://joanorr.com#cv

Brownstone Research: Principal at Ed-Tech Start-up

Chief Architect   2001 - 2005

- Led design and development of an on-line student assessment system from first conception to a mature product in the market
- Integrated into the websites of 4 of the leading college textbook publishers, and delivered content from hundreds of college textbooks, primarily in STEM disciplines.
- Served about 400,000 students in 2,000 classes world-wide at peak.
- Led a partnership with Maplesoft to develop the first versions of Maplesoft's educational product MapleTA (now Mobius).
- Ultimately acquired by Blackboard (2010)

see: http://joanorr.com#edu

University of Waterloo: Department of Mathematics

Postdoctoral Research Assistant   1990 - 1991

- Two-year postdoctoral research grant funded by NSERC (Canada).

University of Lancaster: Department of Mathematics

Postdoctoral Research Assistant   1989 - 1990

- Two-year postdoctoral research position funded by SERC (UK)