Joseph C. Doll

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Education

Ph.D. in Mechanical Engineering, Stanford University (2012)

- NSF and NDSEG graduate research fellow
- Dissertation: Advances in high bandwidth nanomechanical force sensors with integrated actuation

M.S. in Mechanical Engineering, Stanford University (2009)

B.S. in Mechanical Engineering, University of California at Berkeley (2006)

- Honors Thesis: Biocompatible nanoplasmonic probes for the detection of single biomolecules

Work experience

Senior Sensor System Architect, Apple (3/2016 - 6/2018)

- Technical lead for new sensor and actuator architectures (ICT4)
- Engineering manager for the 3D Touch EE architecture team on iPhone X (EM1, EM2)
- Transitioned from on-site manager to remote individual contributor (ICT5)
- Proposed and developed new technologies for future products
- Consulted with sensor/actuator teams throughout Apple to solve critical problems
- Misc: hiring, mentoring, software infrastructure, docs, factory bringup

Principal MEMS Development Engineer, SiTime (7/2012 - 2/2016)

- Technical lead for MEMS resonator design/characterization and in-house design software tools
- Managed a team of three remote engineers in MEMS design and software development
- Trained and mentored all seven subsequent MEMS hires
- Worked cross-functionally with circuits, systems and test groups (ASIC architecture, DFT, FA)
- Invented new core technologies and spearheaded their development

Publications

Book author of Piezoresistor Design and Applications (Springer, 2013)

8 US patent applications and grants

19 journal publications, 24 conference publications, and 1 book chapter

Skills

Sensor and actuator development at the um- to cm-scale with most transducer technologies

MEMS fabrication process development

Modeling (lumped parameter and FEA) and numerical design optimization

Analog circuit design and noise analysis/modeling

Expert (Matlab) and proficient (Java, C#, Python)