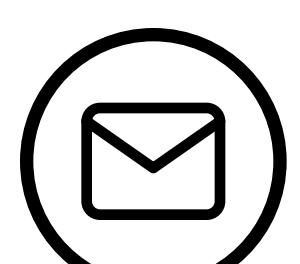


Geoffrey Lee

Microsystems Engineer

Contact



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Kitchener, ON, Canada



www.linkedin.com/in/lee-geoffrey

Education



M.A.Sc Electrical Engineering
University of Waterloo
2010 - 2013
Thesis: Design, Fabrication and Validation of a CMOS-MEMS Kelvin Probe Force Microscope



B.A.Sc Nanotechnology Engineering
University of Waterloo
2005-2010

Expertise

- Electrothermal MEMS Actuation
- Finite Element Analysis
- Class 100 Clean Room Microfabrication
- Microassembly and Packaging Technology
- Project Management
- Vendor Communication
- Design for Manufacturing
- Design of Experiments

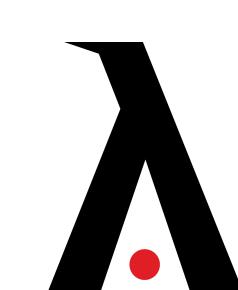
Technical Skills

- Coventorware
- Cadence Virtuoso
- K-Layout
- COMSOL
- MATLAB
- Solidworks

About

Solution focused microsystems engineer with over 10 years of experience in MEMS design, in lab clean room fabrication and hands on micro-assembly processes. I have 4 years of experience as a product manager, acting as a bridge between key stakeholders and the Advanced R&D team, to shuttle new ideas through qualification tests into a production setting.

Work Experience



AdHawk Microsystems, Kitchener, ON, Canada
Co-Founder, Microsystems Engineer

April 2017 - Present

- Lead a team of 6 people across 2 different time zones to model, tape out and verify the first four generations of production level MEMS devices on 200 mm wafers currently sold for use in healthcare and VR applications
- Active management and coordination of an international supply chain consisting of 10+ vendors in China, Taiwan, Japan, United States and Malaysia to reduce lead time by 19% over the product development cycle
- Designed and implemented new package designs to shrink module size by >40%, increasing number of new customers by 3x



ICSPI, Waterloo, ON, Canada
Director of Manufacturing

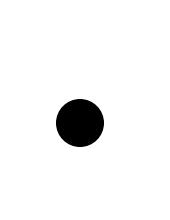
April 2013 - April 2017

- Designed the current flagship ICSPI product, an electrothermally actuated, resonating CMOS-MEMS atomic force microscope, capable of scanning a $20 \mu\text{m} \times 20 \mu\text{m}$ area with 1 nm vertical resolution, which has sold over 1000 units
- Solely managed the GDS database for a group of 8 designers on 30+ Multi Project Wafer tape outs at 3 major CMOS foundries
- Designed and optimized the CMOS-MEMS fabrication process in a Class 100 clean room to achieve >90% yield



University of Waterloo, Waterloo, ON, Canada
Laboratory Development Intern

Jan 2009 - Aug 2009



COM DEV, Cambridge, ON, Canada
R&D Intern

Sept 2007 - April 2008

- Co-designed, assembled and tested second generation thermally compensating high power RF filters to be used for telecommunication satellite systems under extreme $\Delta 100^\circ\text{C}$ and high vibration environments
- Designed test plans for the analysis of R&D satellite hardware for filter response, thermal conductivity and thermal expansion in vacuum environments

Geoffrey Lee

Microsystems Engineer

Other Skills

- Figma
- Adobe Photoshop
- SciLab
- ImageJ

Interests & Hobbies

- Canoeing and Backcountry Camping
- Ceramics and Pottery
- Succulent Propagation
- Pickling and Preservation Techniques
- Foraging and Sustainability

Patents

- Sarkar, N., Yan, D., Lee, G., Rohani, A., Zahirovic, N., Strathearn, D., "Packaging for Compact Object-scanning Modules," 2019, US-20190196179-A1
- Sarkar, N., Lee, G., Strathearn, D., "Scanning Probe Microscope Comprising of an Isothermal Actuator," 2016, U.S. Patent No. 9267962

Publications

- D. Strathearn, N. Sarkar, G. Lee , M. Olfat , and R. R. Mansour, "The Benefits of Miniaturization of an Atomic Force Microscope", Proceedings of the 30th international conference on MEMS, 2017.
- M. Olfat, D. Strathearn, G. Lee, N. Sarkar, S. C. Hung, and R. R. Mansour, "A Single-Chip Scanning Probe Microscope Array", Proceedings of the 30th international conference on MEMS, 2017.
- G. Lee, N. Sarkar, D. Steathearn, M. Olfat, A. Bali, and R. R. Mansour, "High-Speed, Large Scan Area, Distortion-Free Operation of Single-Chip Atomic Force Microscopes", Hilton Head, 2016.
- N. Sarkar, D. Strathearn, G. Lee, M. Olfat, A. Rohani, B. O'Hanlon, and R. R. Mansour, "Scanning Diffractive Optic Elements for Untethered Eye Tracking Microsystems", Hilton Head, 2016.
- N. Sarkar, G. Lee, D. Strathearn, M. Olfat, R. R. Mansour, "A Multimode Single-Chip Scanning Probe Microscope for Simultaneous Topographical and Thermal Metrology at the Nanometer Scale," MEMS 2016.
- D. Strathearn, G. Lee, N. Sarkar, M. Olfat, and R. R. Mansour, "A Distortion-Free Single-Chip Atomic Force Microscope with 2DOF Isothermal Scanning," Transducers 2015, Anchorage, Alaska, June 2015.
- N. Sarkar, D. Strathearn, G. Lee, M. Olfat, A. Rohani, and R.R. Mansour, "A Large Angle, Low Voltage, Small Footprint Micromirror for Eye Tracking and Near-Eye Display Applications," Transducers 2015, Anchorage, Alaska, June 2015.
- N. Sarkar, D. Strathearn, G. Lee, M. Olfat, R. R. Mansour, "A 0.25mm³ Atomic Force Microscope On-A-Chip," MEMS 2015, Estoril, Portugal, January 2015.
- N. Sarkar, G. Lee, R. R. Mansour, "CMOS-MEMS dynamic FM atomic force microscope," Transducers 2013, Barcelona, June 2013.

Projects



Sketchy Science

Illustrator

2014-Present

- Co-founder and Chief Illustrator at Sketchy Science; a twice per week comic science blog explaining scientific concepts and news in layman terms
- Guest illustrator for various online blogs including Grad Hacker, Science Borealis and the Starfish