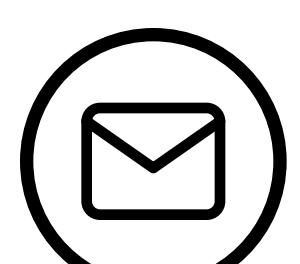


Geoffrey Lee

Microsystems Engineer

Contact



lee.geoffrey@gmail.com



Kitchener, ON, Canada

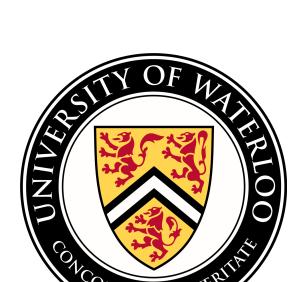


www.linkedin.com/in/lee-geoffrey

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

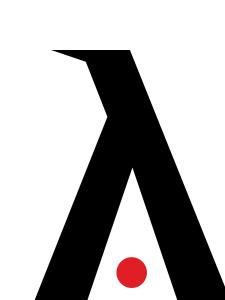
Technical Skills

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

About

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, shuttling new ideas from the Advanced R&D team through qualification tests into productization.

Work Experience

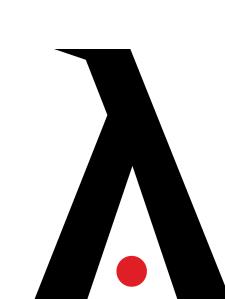


AdHawk Microsystems, Kitchener, ON, Canada
Co-Founder, Product Manager

Aug 2019 - Present

Directed an Advanced R&D team consisting of 6 people across 2 different timezones to ideate, simulate, fabricate and characterize AdHawk's next generation of MEMS micromirrors

- Lead the tape out and verification of three generations of production level MEMS devices on 200 mm wafers, currently sold for use in healthcare and VR applications
- Actively managed and coordinated an international supply chain consisting of 10+ vendors in China, Taiwan, Japan, United States and Malaysia, reducing lead time by 19% over the product development cycle
- Directed efforts to reduced module size by >40% and lower power by 50%, leading to an increase of Tier-1 customer base by 3x



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

April 2017 - Aug 2019

Primary engineer for MEMS design simulation, fabrication process development, and microassembly process development

- Designed and optimized the first and second generation of AdHawk MEMS micromirrors used by Tier-1 companies for evaluation, resulting in a continuation of projects worth over \$2 million
- Developed MEMS fabrication processes with external vendors to fabricate devices at the 200 mm wafer level, increasing throughput by 6 orders of magnitude and increasing yield by 23%
- Developed a microassembly process with external vendors for the first two generations of eye tracker modules, resulting in official demos for Series A financing



ICSPI, Waterloo, ON, Canada
Director of Manufacturing

April 2013 - April 2017

Primary process and assembly engineer and MEMS designer

- Designed the current flagship ICSPI product, an electrothermally actuated, resonating CMOS-MEMS atomic force microscope, capable of scanning a 20 μm x 20 μm 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 Tier-1 CMOS foundries
- Designed and optimized the CMOS-MEMS fabrication process in a Class 100 clean room to achieve >90% yield

Geoffrey Lee

Microsystems Engineer

Other Skills

- Figma
- Adobe Photoshop
- SciLab
- ImageJ
- Vector Graphics

Interests & Hobbies

- Canoeing & Backcountry Camping
- Ceramics & Pottery
- Apartment Gardening & Plant Propagation
- Pickling & Preservation Techniques
- Foraging & Food 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. Strathearn, 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