Nicholas Levinski

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Education & Awards

University of Waterloo Waterloo, ON
Bachelor of Applied Science, Nanotechnology Sept 2018 – May 2023
Presidents Scholarship 2019, 3x OUA Academic all Canadian
1st Place in University of Waterloo 4th Year Design Competition for the Faculty of Nanotechnology Engineering May 2023
2nd Place in University of Waterloo Ansys Design Analysis Competition May 2023

Experience

Lumentum Ottawa, ON
Hermetics Systems Development Engineer Intern Jan 2022 – Aug 2022

- Collaborated with a team of senior managers to improve yields by determining contamination sources and implementing mitigation steps.
- Developed standardized characterization methodology utilizing in-house optical based analysis equipment. Performed an extensive 2-month study to determine contamination pathways throughout the manufacturing process. Created and presented results and mitigation solutions, including cost-effective procedural changes to achieve yield improvements, to the operational Vice President.
- Manufacturing plating process analysis and inductive heating testing utilizing infrared imaging and JMP data processing tools. Investigative data analysis determining complex interactions and corresponding impact factors. Generated model to accurately predict plating processes parameters effects on downstream heating.
- Project to validate new manufacturing process. Determined baseline test parameters of current process to test new equipment. Fabricated new Jigging that was necessary for evaluation. Utilized Jump Software to create full factorial design of experiments. Created in-depth data modelling to be used in future factory quality control testing.

KPMG Canada Toronto, ON
Software R&D Advisor Jan 2021 – Apr 2021

- Wrote comprehensive reports on state-of-the-art IT technologies and research to be submitted to Canadian government to claim SR&ED program tax credits.
- Developed Python web automation service with graphical user interface to query the tax authority website accelerating payment collection from clients (percentage improvement).
- Consulted with Chief Architects from innovative startups to established Fortune 500 companies to interview, gather and extract critical information that articulates/justifies the technological innovation.
- Executed project engagement with external clients, ensured critical milestones and submission deadlines were met.

University of Waterloo Microfluidics Laboratory Waterloo, ON
Research and Development Engineer Sept 2020 – Dec 2020

- Designed and fabricated a Lymphedema active compression sleeve utilizing air microfluidics technology enabling valveless inflation sequencing.
- Developed COMSOL Multiphysics application to simulate and analyze air microfluidic devices to reduce number of protypes needed to tune the system accurately.
- Researched and tested PDMS and fabric materials for mechanical and chemical durability under required loads using custom sensor arrays, imbedded textile sensors, and microscopy.
- Conceptualized pressure sensing array to improve data collection process, designing and fabricating PCB development board using Altium design suite and 3rd party manufacturing.

AMD Markham, ON
Radeon Enablement Co-op Engineer Jan 2020 – Apr 2020

- Supported systems engineering and silicon design teams through the various phases of bring-up, product definition, product validation and production ramp up, while working in the laboratory debugging hardware issues.
- Developed Python and Ruby applications to automate testing data and achieve a 40% reduction in test time.
- APU display iGPU integrated display and memory bus related debugging and validation.
- Created Ruby script to interface with proprietary software for registry/fuse writing for graphics card IP validation

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AMD Markham, ON
Tech Marketing Performance Lab Co-op Engineer May 2019 – Aug 2020

- Implemented data capture processes along with corresponding data analysis utilizing object-oriented languages and Python scripting.
- Developed overclocking process through complex iterations and testing for pre-launch of new Navi lineup of graphics cards.

Publications

Gao, R. Z., Mai, V., Levinski, N., Kormylo, J. M., Murdock, R. W., Dickerson, C. R., & Ren, C. L. (2022). A novel air microfluidics-enabled soft robotic sleeve: Toward realizing innovative lymphedema treatment. Biomicrofluidics, 16(3), 034101. https://doi.org/10.1063/5.0079898

Leadership & Activities

Waterloo Warriors Varsity Baseball (2018-2022)

- Team Captain Fall 2022.
- Western Ontario Regional Champions 2022.

Soft Robotics Team

- Developed a soft silicone-based exoskeleton for hand mobility alongside with the BioMechatronics club.
- Created a pneumatically controlled finger actuator for grip augmentation in glove system.

Student Athlete Peer Leader (Sept 2020 – May 2021)

- Oversaw 20 first year student-athletes.
- Helped students in becoming familiar with topics regarding campus resources, academic strategies, athletic eligibility requirements, varsity specific resources and health/wellness and supported them through the pandemic.

Technical Skills

Technical: Python, C++, MATLAB, SolidWorks, JMP Data Modeling and DOE, COMSOL Multiphysics, Altium
Laboratory: Clean Room facilities, Mixed Signal Analysis, Logic Analyzers, Machine Shop, 3D printing (FDM, SLA), SEM, AFM
Interests: Baseball, Golf, Skiing, Rock Climbing, Electronics projects

Personal Projects

Ping Pong Practice Robot

- Prototyped Arduino based water pong practice robot capable of launching standard ping pong balls into cups.
- Designed electronic system which utilized laser range sensor, servos, DC motors, custom hall-effect encoders for speed controlling and Arduino Nano integration.
- Molded and iterated several physical designs using Solidworks and 3D printing.
- Created companion Android application to control ball launch parameters, game state, and manually launch.