RYAN LI

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A self-motivated 2A Nanotechnology Engineer at the University of Waterloo, The Knowledge Society Alumni, and SHAD Fellow who is passionate about nanotechnology, entrepreneurship, and bringing impact to the world through technology.

SUMMARY OF QUALIFICATIONS

- Project-Oriented experience in using literature to create and procedures of experiments in a laboratory setting.
- Experience in JavaScript, Python, HTML, CSS, Excel, and Solidworks, Web development, Materials science in EduPack, MATLAB, COMSOL. and mobile app development
- Skillful at conducting presentations with experience presenting for Velocity $5K competition and research poster at the MINE Summit 2019 in Shanghai
- Experience in SEM, AFM, XPS, TEM, STM, PVD, CVD, DSC, TGA, materials characterization and wet labs

EXPERIENCE

Volunteer Research Assistant | University of Waterloo, Waterloo Microfluidics Lab, Professor Carolyn Ren
September 2019 – PRESENT

- Fabricated **silicon wafers and PDMS microfluidics chips** using **photolithography, deposition** techniques, spin coat
- Ran experiments on **single and double emulsion** experiments for embryonic stem cell growth in **gelMA with UV catalyzation**, utilizing **high speed cameras**, and **microscopy techniques** for the study of single embryoid body growth on a chip

Research Assistant |Southeast University, Key Laboratory of MEMS of Ministry of Education China
May 2019 – September 2019

- Worked on **Electrical Impedance Spectroscopy (EIS) simulations** of a S. Pombe cell cycle using **COMSOL and MATLAB** to extract **equivalent circuit model (ECM)** values of cell components
- Clean room experience working with **PDMS and nanomaterials, microbiology, fabrication of microfluidics chips** for EIS
- Presented **research poster** at the **Microsystems and Nanoengineering Summit (MINE) 2019** in Shanghai, China

Technical Team member and Micro-fabrication Lead | University of Waterloo NanoRobotics Group
SEPTEMBER 2018 – PRESENT

- Worked on the Solenoid Actuated Microrobot (SAM) through **PCB manufacturing, solenoid actuation** through **Arduino control systems, optical microscope, electric circuit design, and C++**
- Worked with **photolithography techniques, CVD, PVD, wet etch and dry etch, compressed gas management, stock solutions, CMP** and, **learned the mentality needed for research**
- Developed solutions for **flux pinning tests** utilizing **cantilever design**, **torsion balance**, and optimized materials utilized for **superconductor and micro-magnet fabrication**

Volunteer Research Assistant | Professor Ting Tsui at University of Waterloo
JANUARY 2019 – PRESENT

- **Trained in Scanning Electro Microscopy (SEM) techniques** to image in-vivo cell cultures stained onto integrated circuit chips for differentiation analysis

Co-Founder | Omicron
OCTOBER 2017 - PRESENT

- Developed a platform to be used at hackathons for sponsor ROI through **Angular JS, Firebase, and front-end web development**
- Helped organize hackathons for various corporate groups and schools including **Elevate Tech Jam**, **Red Bull AdrenaLAN, JAM Hacks, THacks 2, Hack the Hammer and Pentahacks**

PROJECTS

Technology Articles | Medium Posts and Personal Website
OCTOBER 2017 – PRESENT

- **Created articles** focusing on concepts, including **lithography techniques, cancer research**, and **applications of nanotechnology**
- Three-part review of the **MINE Summit 2019** in Shanghai, China focusing on **M/NEMS, Microfluidics Devices, and Biosensors**

Hardware Developer | Nanotechnology Engineering Design Days
March 2019

- Created a **Scanning Tunneling Microscope (STM)** from scratch designing a **noise cancellation system**, **wet etch techniques** for tip fabrication, and yielded high quality images of samples

INTERESTS

Hackathons (Participated and organized over 15), Auditing Coursera Courses (Audited 2 Nanotechnology and Sensors Courses), Music, Working Out, Reading Research Papers, Sprinting, and Learning. Fluent in English, Mandarin, Cantonese and French