RYAN LI

Waterloo, ON
(647)-966-9330
liryan914@gmail.com
/in/ryanli1
ryhli.com

A self-motivated 2B 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 for data analysis, HTML, CSS, Excel, and Solidworks, Materials science in EduPack, MATLAB, and COMSOL.
- 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

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

- Developed and validated a novel **microfluidics platform** for **single embryoid growth on a chip** with **double emulsion methodology** utilizing UV polymerized hydrogel, GelMA, and FC40 oil
- Successfully improved **encapsulation rate of embryonic bodies by 30%** utilizing novel mechanical vibration generation device

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

- Created an **Electrical Impedance Spectroscopy (EIS) simulation** of a S. Pombe cell cycle using **COMSOL and MATLAB** to extract **equivalent circuit model (ECM)** values of cell components
- Validated simulations with live experimental data in clean room showing 90% accuracy in models
- Presented **research in poster format** 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 – JANUARY 2019

- Worked on the Solenoid Actuated Microrobot (SAM) through **PCB manufacturing, solenoid actuation** through **Arduino control systems, optical microscope, electric circuit design, and C++,** improved actuation on platform by 150% through introduction of silicon oil as **tensoionic fluid**
- Worked with various **photolithography techniques, CVD, PVD,** for development of silicon wafers to run microrobot actuation
- 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)** to image in-vivo cell cultures stained onto integrated circuit chips for cell analysis

Co-Founder | Omicron
OCTOBER 2017 - PRESENT

- Created a novel platform for increase in sponsor ROI with **Angular JS, and Firebase,** with validated customers from industry and strategic partnerships developed with **Google, TechTO, Red Bull, and .tech**
- Helped lead and organize hackathons for various corporate groups and schools including **Elevate Tech Jam**, **Red Bull AdrenaLAN, JAM Hacks, THacks 2, Hack the Hammer and Pentahacks,** and improved event engagement overall by 60%

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

- Fabricated a **Scanning Tunneling Microscope (STM)** from scratch utilizing **wet etch techniques** and developed a unique noise-cancelling system. Produced clear images for metallurgy analysis in surface profiling

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