Shu-Hang (Jason) Lin

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Education

University of Michigan, Ann Arbor, MI
Bachelor of Science in Engineering in Chemical Engineering — *April 2023*
Minor in Computer Science, Engineering Honors Program — *GPA: 3.86/4.00*

Experience

Novartis Institutes for BioMedical Research — **Cambridge, MA**
Data Science Intern — *June 2021 – August 2021*

- Constructed and assembled pipeline by writing Python and Bash scripts that produce a reaction prediction application for chemists to use (N-arylation reactions)
- Built and refined workflow that extracts, cleans, and collates data sets from public and proprietary databases, resulting in an increase in number of training data points (18,000 to 86,000)
- Trained and tested various model architectures (graph convolutional networks, feedforward neural networks, random forests) using Chemprop, a message passing neural network designed for molecular property prediction
- Analyzed and compiled model metrics and data visualizations, culminating in a scientific poster presented to an audience of executive directors, senior scientists, and principal scientists

Tech-X Corporation — **Boulder, CO**
Software Engineering Intern — *June 2020 – December 2020*

- Developed capabilities (field updaters) in C++/CUDA architecture to facilitate upgrade to new multi-device (CPU and GPU) framework for multi-physics simulation software
- Implemented fundamental field updaters (linear plasma, binary operations, and curl) essential to the development of regression tests and user examples, granting new features to users and developers
- Fixed bugs, improved code quality, and drafted documentation, resulting in cleaner and more consistent workflow for users and other team members

Biointerfaces Institute at University of Michigan — **Ann Arbor, MI**
Research Assistant, Prof. Lahann Lab — *October 2019 – April 2020*

- Conducted wet lab research in gene delivery to construct novel protein nanoparticles that improve on current non-viral gene delivery methods
- Analyzed data from relevant scientific publications, pinpointing optimal design that relied on material, synthesis, and fabrication (electrohydrodynamic co-jetting) of nanoparticles
- Examined characteristics of nanoparticles via dynamic light scattering, scanning electron microscopy, and image processing software, resulting in successful data compilation

Leadership & Involvement

Michigan Research and Discovery Scholars — **Ann Arbor, MI**
Peer Mentor — *August 2020 – April 2021*

- Guided first-year students in learning community on college transition through social events and 1-on-1 meetings
- Assisted and cooperated with other leaders to promote inclusivity and positivity through daily interactions

Skills

Programming & Technologies: C++, Python, HTML/CSS, Linux, Git
Languages: Mandarin Chinese (Native), Spanish (Proficient)

Activities

Multidisciplinary Design Program – Reinforcement Learning Team, *Member* — *January 2021 – December 2021*
Professor Heather A. Carlson Lab, *Research Assistant* — *October 2021 – Present*
Chemical Engineering Undergraduate Peer Mentorship Program, *Peer Mentor* — *August 2021 – Present*
Michigan Ballroom Dance Team, *Member* — *August 2019 – Present*
Michigan Triathlon Club, *Member* — *August 2021 – Present*