Simon Julian Lauw

github.com/simonjulianl

Email : simonjulianl@u.nus.edu
Mobile : (+65) 8357 3005

Education

National University of Singapore — Singapore

Bachelor of Computing in Computer Science (with Honours), Expected Graduation Date: 07/2024 — *Jul 2020 - Present*

- **Cumulative GPA**: 4.95/5.0; AY20/21 Sem 1 Dean's List
- **ASEAN Undergraduate Merit Scholarship**: Awarded by NUS for outstanding academic achievements

Experience

Sea — Singapore

Android Engineer Intern — *May 2021 - Aug 2021*

- Worked in a team of 6 that is responsible for the Android client of SeaTalk, internal communication and administrative tool that has more than 15,700 active users.
- Improved the internal media viewer library to support videos on top of images utilizing multi-fragment ViewPager and ExoPlayer library. Integrated the improved media viewer library into SeaTalk.
- Created an internal library leveraging Google's ML-Kit and CameraX libraries to provide a custom Android view to capture QR code and integrate it into SeaTalk, resulting in an improved user interface and a **62%** QR code recognition speed improvement on version 4 QR code.
- Maintained the technical documentation for the QR code scanner and media viewer features using tools such as sequence diagram, state diagram, and UML diagram provided by PlantUML.
- Presented AppSearch library during SEA Android team sharing meeting attended by 32 people.

Bioinformatics Institute, A*STAR — Singapore

Research Assistant Intern — *Jan 2020 - Jul 2020*

- Experimented with physics-guided neural networks to solve the Fokker-Planck equation and achieved 10 times improvement in terms of the JS divergence of the particles' position and momentum distributions compared to the results obtained using traditional molecular dynamic simulation.
- Explored integration of regularization to refine FenceGAN, a novel approach for more robust out-of-distribution detection simulated using mixture of CIFAR-10 and SVHN dataset that achieved 0.759 AUROC.
- Investigated and wrote a report about the Hausdorff Dimension of decision boundaries of various commonly employed neural network models such MobileNet and ResNet.
- Constructed an elementary library in Python for Molecular Dynamics for Deep Learning Simulation team.

Projects

- **PINUS Website**: Leading a team of 7 people to create a web application using Next.js and Sequelize that provides a guide for Indonesian freshmen and a platform to showcase Indonesian students' activities at NUS.
- **Raffles Hall Application**: Developed a Progressive Web App using React.js, Python and MongoDB to serve Raffles Hall's ∼400 residents. The application includes features such as booking common facilities, viewing laundry machines' availability and ordering suppers.
- **Booking NUS (BoNUS)**: Initiate and develop a mobile app prototype using Next.js aiming to revamp the current NUS facilities booking system.

Achievements

- **Bronze Medallist in Singapore National Olympiad in Informatics (NOI) 2019.**
- **Top 10 Finalists, NUS Data Science Competition (DSC) 2021**: Developed 2 deep learning models in a team of 4 to solve the problem of manual counting of HP's printer cartridge chips.
- **2nd Runner Up Lifehack Hackathon 2020**: Collaborated in a team of 2 and ranked third out of ∼200 team by creating an application for malaria detection on corrupted thin blood smear images using DeblurGAN and Faster-RCNN.

Programming Skills

- **Languages**: Kotlin, Java, Python, Javascript **Technologies**: Android, React, Next, Sequelize, PyTorch