Zhuoyue Lyu

Software Engineer • User Experience & HCI Researcher
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EDUCATION

UNIVERSITY OF TORONTO
Computer Science (Focus in AI)
Minor in Music
Sep. 2017 - Jun. 2021
Toronto, Canada

Major GPA: 3.84 / 4.0
Dean's List of 2018-2019

COURSEWORK

A+ Math Expression and Reasoning
A+ Intro to the Theory of Computation
A+ Computer Organization (FPGA)
A+ Intro to AI (Bayesian Net, HMM)
A Software Design (OOP, Test, MVC)
A- Data Structures and Analysis
A- Software Tools & Sys Programming

This year: Operating Systems, Algorithm Design & Analysis Database, Machine Learning, Neural Net & Deep Learning, Natural Language Processing

SKILLS

Languages:
Python, Java, JavaScript, CSS/HTML, C, C#, C++, R, Verilog, LaTex, VB, Shell Scripts

Tools:
SQL, GitHub, Linux/Unix, TensorFlow, Android Studio, Unity, Quartus, RStudio, SAS

ACTIVITIES

FIRST YEAR LEARNING COMMUNITY
Peer Mentor | 2019 | Toronto, Canada

MEN'S CHORUS, FACULTY OF MUSIC
Bass Singer | 2019 | Toronto, Canada

UOFT CHINESE SPEECH CONTEST
1st place | Nov. 2017 | Toronto, Canada

CHINESE MATHEMATICAL OLYMPIAD
2nd prize| Mar. 2016 | Zhejiang, China

STUDENTS ARTS FESTIVAL COMMITTEE
President | 2014 | Hangzhou, China

HANGZHOU CITY'S YOUTH CHOIR
Singer | 2009-14 | Hangzhou, China

EXPERIENCE

DYNAMIC GRAPHICS PROJECT (DGP) LAB | Research Assistant
Jul. 2019 - Present | Toronto, Canada

- Supervised by **Prof. Tovi Grossman** on a Virtual Reality (VR) project in which we explored the performance of touch events on a physical device under different input modalities in VR, for submitting on the **UIST 2020** Conference.
- Collaborated with grad students to build the "Vtouch" system using Unity, which could stably collect touch data and succeed in shortening the duration of each study by 30%.
- Conducted user studies with 12 participants, analyzed data entries using R and Anova.
- Designed and built robust hardware including side-touch button and controller case using the 3D printer, which significantly improves the usability of the system.

INTELLIGENT ADAPTIVE INTERVENTIONS LAB | Project Manager
Apr. 2019 - Jun. 2019 | Toronto, Canada

- Assisted **Prof. Joseph Jay Williams** in transforming datasets between different formats that are ready to be used on multiple machine learning projects.
- Coordinated 100+ meeting schedules with lab members and researchers from Goodlife Fitness Centres Inc. Recorded and distributed meeting notes.

CHINESE ACADEMY OF SCIENCES | Software Engineer (R&D)
Aug. 2018 - Sep. 2018 | Beijing, China

- Worked in an autonomous vehicle simulation team that led by Dr. Yunzhi Xue. Took the initiative to acquire Machine Learning (ML) knowledge through Stanford online courses and built several ML models within two weeks.
- Generated 11,600 street sign images from CARLA simulator, retrained Google Inception V3 neural net using TensorFlow, the model achieved 90+% accuracy.
- Added noises (gaussian noise, salt-and-pepper noise...) in the images, explored the relationship between image deterioration rate and model accuracy.

AIESEC POLAND | Global Volunteer
May. 2018 - Jun. 2018 | Katowice, Poland

- Conducted culture-sharing lessons for 6 weeks, with 600+ polish students from two schools (kindergarten to grade 11) in Bielsko-Biała and Dobieszowice, my Chinese papercutting and singing lessons received recognition from the AIESEC team.
- Worked with volunteers from Poland, Cuba, Vietnam, Spain, India, etc. to develop cross-culture perspectives and working skills.

PROJECTS

ANDROID GAME CENTER [Java]
Collaborated with two other developers as a back end developer & UI designer. Applied design patterns like: MVC, Iterator and Observer to build three games and a login system.

FACIAL EXPRESSION CLASSIFIER [Python]
Used subsampled grayscale images from Toronto Faces Dataset. Trained a neural network that can detect 7 different expressions.

STONEHENGE/SUBTRACTSQUARE [Python]
Applied object-oriented programming (OOP) techniques to build two python games with iterative/recursive/minimax AI strategies.

SOFTWARE TOOLS [C]
Multiple projects for the Software Tools & System Programming course. Topics include structs, dynamic memory, processes & pipes, signals and basic network programming.