Yizirui Fang

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EDUCATION

Johns Hopkins University, MD, US — Aug 2022 - Dec 2023 (Expected)

- **Master in Computer Science**

University of Nottingham — Aug 2018 - Jul 2022

- **BSc (Hons) in Computer Science, First Class**
- **GPA**: 3.86/4.0
- **Honors:** Dean's List, Excellent Graduate (5%)

SKILLS

- **Programming Language**: Java, Python, C/C++, C#, OCaml, Haskell, JavaScript. Dart
- **Techniques:** Maven, JavaFX, Node.js Django, Docker, PostgreSQL, Spark, Unity, Shell, PyTorch, Ski-kit Learn

PROJECT EXPERIENCE

EJay, Object-Oriented Software Engineering Group Project, MD, US — Aug 2022 – Dec 2022

Software Engineer | *Node.js, React, MongoDB, Docker*

- Developed both the client's side web and server-side API utilizing JavaScript. Node.js, and Docker to provide exclusive Johns Hopkins community service and engage sustainability by good exchanging and trading
- Developed front and back end of CRUD features to transmit images and JSON, to query the MongoDB database
- Administered the documentation of the software requirement specification and requirement engineering

The V-ROOM Lab XR Team, Uni of Nottingham, China, and remotely — Sept 2020 - Aug 2022

Student Intern for Software and Technology | *Unity, C#, Photon Network*

- One pending **patent** and one **software copyright,** *one innovational measure for education purposes with immersive technology (XR),* and was awarded the University of Nottingham **Vice-Chancellor's Medal**
- Improved student satisfaction of course from **3.8 to 4.5/5.0**, reported on **39 news pieces with 271 M reach**
- Designed and implemented multi-player scene customization feature, movement and objects sync feature for PC and desktop VR by RPC networking with Photon Engine and improved the instructor statistician from **3.8 to 4.6**
- Developed and developed movement, gaming, and interaction in the desktop, standard-alone, and mobile VR platform that is commented as smooth and rated at **4.6/5.0**
- Coached *STEM Programming Summer School* and *Future of Teaching and Learning* faculty training workshops

Distributed Road Network Monitoring System Group Project, Ningbo China — Sept 2020 - Apr 2021

Student Team Leader | Released on GitHub | *Python, Flutter, Django, Docker, PostgreSQL*

- Managed a team of 5 students in agile development, rated 4.8/5.0 by stakeholders
- Designed and implemented the road condition evaluation algorithm with 91% accuracy to go beyond CRUD
- Developed the back-end CRUD APIs to communicate client data including a server supporting 200 concurrencies
- Developed cross-platform mobile applications to collect location and acceleration data and communicate with the server and data filtering algorithm. Saved 60% of computational resources and networking bandwidth
- Built project unit test and CI/CD for testing and client's servers with Docker, Shell script, and XML files

Efficient Reliable Machine Learning Methods Project, Uni of Nottingham, Ningbo China — May - Sept 2020

Research Assistant | *Python, TensorFlow, Skikit Learn, Docker*

- First authored one working journal paper, *An Empirical Study on Overlapping Techniques for Data-efficient Inductive Conformal Prediction*
- Proposed an optimal approach to efficiently distribute data for conformal prediction with a **54% upgrade**
- Proposed and proved with theoretical and empirical analysis a modified version of the conformal predictor by overlapping two data sets to provide machine learning prediction under confidence levels in a data-efficient way

RESEARCH EXPERIENCE

Augmentation Techniques for Population Drift in Time-series Modelling (Thesis), *Python* — Jul 2021 - May 2022

- Designed and implemented large-scale databases for financial time-series data with more than 2 bn data points
- Surveyed credit risk models in Gradient Boosting, Neural Network algorithm with **Python, LightGBM, NumPy**
- Proposed and validated augmentation techniques to weight time-series under various economic factors, and time and improve the AUC of ML models **from 0.73 to 0.85** and recognized as publishable by the committee