

# Xingzhi Qian

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## Education

### Imperial College London

*MEng Computing (Artificial Intelligence and Machine Learning)*

London, United Kingdom

*September 2019 - June 2023*

**Relevant Courses:** Machine Learning, Computer Vision, Natural Language Processing, Logic-Based Learning, Operations Research, Probability and Statistics, and Linear Algebra

### University College London

*MPhil/PhD Computer Science*

London, United Kingdom

*November 2023 - October 2028*

**Research Direction:** System Security, Android Malware Analysis, Program Analysis, Deep Learning, Graph Neural Networks, Distribution Drift

## Research Experience

### Hierarchical Graph Representation Learning for Android Malware Detection

May 2024 - Dec 2024

- Developed a hierarchical graph representation for programs leveraging both Function Call Graphs and Control Flow Graphs that capture structural and semantic information of malicious behaviors, and applied Graph Neural Networks for malware classification
- Performed program analysis, such as backward slicing and control flow analysis, based on sensitive API invocations to extract sub-graphs with Soot and FlowDroid, enabling the model focus on important instructions to achieve better detection performance

### Verification-based Data Augmentation for High-accuracy Machine Learning

November 2022 – May 2023

- Generated counter-examples based on formal verification methods using linear relaxation, error-based symbolic interval propagation, and linear programming
- Discovered robust neural networks that outperformed state-of-the-art adversarial training approaches

## Entrepreneurship

### AI Geometric

*Co-Founder, Software Development Engineer*

London, United Kingdom

*Nov 2023 - Present*

- Launched an AI-powered web application for video interview practice, integrating LLMs to provide real-time feedback
- Established front-end service in Next.js and back-end service in FastAPI from scratch
- Gained over 10,000 monthly active users and established a strategic partnership with a NASDAQ-listed company to deploy our solutions to their database

## Internship Experience

### Bafta Media Technology

*Software Engineering Intern*

London, United Kingdom

*May 2022 – September 2022*

- Built Bafta View TV app on Amazon FireTV Stick and deployed to Amazon store with Android Studio to support over 5000 Bafta members with desired display effects
- Improved accessibility across 3 video platforms, increasing user engagement by 15% and implemented extra functionalities on Bafta View Web app using React.js and JavaScript
- Launched Bafta Nucleus and designed customized color themes to improve user experience

### Shanghai Ximalaya Technology

*Software Engineering in Test Intern*

Shanghai, China

*May 2021 – August 2021*

- Designed and implemented a feature to automatically test 12 APIs, which covered 80% of cases, and deployed the feature to the existing data pipeline
- Coordinated API testing using Charles and Postman, manual functional testing, smoke testing, regression testing and compatibility testing with different mobile devices

## Publication

### Machine Learning on Cataracts Classification Using SqueezeNet

*IEEE International Conference on Universal Village*

Massachusetts Institute of Technology, USA

*July 2018 – August 2018*

- Analysed 420 sets of data to classify Cataracts, a serious eye disease affecting over 20 million people worldwide
- Trained an efficient deep neural network with pre-processing that has less computational cost than state-of-the-art neural network

## Skills and Interests

**Languages:** English - Fluent, Mandarin - Native

**Technical:** Java, Python, SQL, JavaScript, HTML/CSS, PyTorch, React.js, Next.js, Postman, Git

**Interests:** Table Tennis, Hiking, Snowboarding, Photography