Yuxiang Qiu

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Education

University College London 09/2021 - 06/2025

MEng Computer Science

- **Grades**: 1st (87%, 1st year), 1st (86%, 2nd year)
- **Coursework**: Computer Architecture and Concurrency, Intelligent Systems, Logic, Theory of Computation
- **Award**: UCL Faculty Undergraduate Scholarships for Excellence (2022)

Georgia Institute of Technology 08/2023 – 05/2024

BS Computer Science (Exchange Student)

- **GPA**: 4.0
- **Coursework**: Blockchain and Cryptocurrency, Compiler and Interpreter, Computer Graphics, Deep Learning, Design and Analysis of Algorithm, Intro to Infosec, Processor Design, Quantum Computing

Skills

Languages: C++, C, Python, Rust, Java, Verilog, Solidity, HTML, CSS, JavaScript, Haskell, x86 Assembly
Frameworks: ANTLR, Bootstrap, Flask, Koa, OpenCV, OpenGL, PyTorch, scikit-learn, Vue.js
Tools: Arduino, Git, Gradle, Maven, Node.js, Redis, SQLite, Vim

Experience

Research Intern 06/2024 – 09/2024

University College London SOLAR group *London, UK*

Software Development Engineer Intern 06/2023 – 08/2023

Amazon *London, UK*

- Researched cross-platform portability of Java apps running on Windows, resulting in a ~10-page research report
- Delved into the Java SE Specifications (JVMS and JLS), the JAR file specifications, and the OpenJDK source code
- Developed a Java application and library that performs **incompatibility detection at the bytecode** level (checking for 7 different types of cross-platform issues) with **~80% accuracy and 90%+ recall**
- Optimized libraries by profiling hotspots and bringing parallelism to CPU-bound tasks, resulting in a **3x speedup**

Programming Tutor 09/2022 – 03/2023

University College London *London, UK*

- Tutored 11 students in 6 programming languages (C, C++, Rust, Haskell, Java, Python) and familiarized them with shell scripting, computer networking, frontend/backend, and various tools (linters, formatters, debuggers, profilers)

Open Source Contributions

- Designed/Improved 3 lints for `rust-lang/rust-clippy` (#11865, #12084, #12094)
- Introduced multi-line field parsing support for `typst/biblatex` crate to make it conform to the `BibLaTex` (#34)

Projects

TrueLearn 01/2023 - 08/2023

- Led a team of 4 students to **implement a Python machine learning library** with a family of baseline and Bayesian classifiers for building learner models to predict their engagement with educational resources
- **Created 9 static and interactive visualizations** to present the learner representations in humanly-intuitive ways
- Set up strict linting and thorough unit/integration testing (100% test coverage) throughout the codebase
- Conducted **hyperparameter tuning** via grid search and evaluated library scalability by analyzing wall-clock time
- Contributed to the upstream (PEEK dataset): gather missing titles and descriptions for 30,000+ Wikipedia topics

Logic Parser 10/2022 - 12/2022

- Devised a **one-pass iterative parser** and a **tableau-based SAT solver** for propositional and predicate logics
- Built efficient iterative algorithms for AST operations that support processing logic formulas of arbitrary size in a scalable way, with **performance comparable to the SOTA z3 solver** for propositional logic

Publications

A Toolbox for Modelling Engagement with Educational Videos
Yuxiang Qiu, Karim Djemili, Denis Elezi, Aaneel Shalman Srazali, Mar'ia P'erez-Ortiz, Emine Yilmaz, John Shawe-Taylor and Sahan Bulathwela
14th Symposium on Educational Advances in Artificial Intelligence (EAAI-24), co-hosted with AAAI-24

TrueLearn: A Python Library for Personalised Informational Recommendations with (Implicit) Feedback
Yuxiang Qiu, Karim Djemili, Denis Elezi, Aaneel Shalman, María Pérez Ortiz and Sahan Bulathwela
6th Workshop on Online Recommender Systems and User Modeling, ACM RecSys 2023