Tao (Tom) Mo

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EDUCATION

Sep 2019 – May 2024 **University of British Columbia** ***Bachelor of Science in Computer Science*** **Vancouver, CAN**
GPA: 3.75 / 4.3 (81%)
Honours: Dean's Honours List, 2020
Main Courses: Data Structure & Algorithms, Algorithm Design, Software Engineering, Operating Systems, Artificial Intelligence, Machine Learning, Computer Vision, Computer Graphics, Relational Databases

Sep 2015 – May 2018 **University College London** ***Associate of Arts in Arts and Sciences*** **London, UK**
Core Courses: Interdisciplinary Epistemology, Interdisciplinary Game Theory, Data Science and Visualization, Research Methods in Cultural Analysis

WORK EXPERIENCE

Jan 2024 – April 2024 **iQIYI** ***Web Developer Intern*** **Beijing, CN**
- Actively developing an internal web-based CRM platform built on Vue and Typescript, with over 1000 page-views per day.
- Iterating workflow automations and page generation tools aimed at improving type-safety and code quality in 15 repositories.

Jan 2023 – Aug 2023 **BGC Engineering** ***Data Visualization Software Developer Co-op*** **Vancouver, CAN**
- Conducted data integration and feature iteration of a 3D data visualization program, enhancing dense data visualization for business clients, including the 2nd largest oil company in Canada
- Integrated client drilling data using Python's SQLite and Pandas libraries and imported it into Unity runtime, which persisted on Firebase. Implemented real-time interactivity of over 20,000 data points on a single terrain
- Employed OpenGL-like shaders and Unity for real-time terrain shading, and developed a user interface for real-time customization using C# and XML
- Streamlined a Lidar data processing pipeline using the Task type in C#, outputting heightmaps that persist on Azure Blob. This resulted in a 90% reduction in the response time for data integration

May 2022 – Dec 2022 **UBC Emerging Media Lab** ***Full-stack Developer, Part-Time*** **Vancouver, CAN**
- Developed interactive educational software for faculty members and professors at the University of British Columbia (UBC)
- Implemented the Breadth-First Search (BFS) feature on a Unity-based 3D visualization of the metabolic process
- Prototyped a web-based Radiology simulation using an AWS EC2 deployed DICOM server with a React.JS front-end, providing a training environment for Radiology students at the Vancouver General Hospital
- Successfully launched a Metabolic Pathway product for second-year students at UBC. Subsequent studies showed an improvement in learning for 84% of the students

Jul 2018 – Jul 2019 **NEO Blockchain** ***DevOps and Documentation*** **Shanghai, CN**
- Served as a full-stack team member for an open-source public Blockchain project, providing continuous documentation and enhancing the development environment for the community
- Deployed Docker images of the private network for use in development environments. Conducted independent research on the project's Whitepaper for documentation pertaining to governance and deployed multi-lingual versions on GitHub Pages, making it accessible to the public

PERSONAL PROJECTS

Sept 2022 – Nov 2022 **Domain Specific Language (DSL)** **Vancouver, CAN**
- As a member of a four-person team, designed and implemented a low barrier-to-entry programming language, also developed a web-based 2D game engine for this language
- Leveraged Java's ANTLR library to generate a parser and compiler for our Domain Specific Language (DSL). Utilized webpack for deploying the parser to web-based platforms
- Following deployment, organized a demonstration with ten novice programmers, which resulted in eight of them successfully writing their own games

Jun 2022 – Aug 2022 **Meeting Planner Web App** **Vancouver, CAN**
- Established a four-person team to design and implement a full-stack web application for planning meeting times among multiple users, using Figma for brainstorming and Trello for sprint planning
- Designed and developed interactive timetables featuring a multi-user interface for users to highlight available times. Also implemented support for shareable meeting links, user login, and user access control
- For data persistence, used Node.js and MongoDB, with front-end iterations in React and Material-UI (MUI). Implemented Promises for processing asynchronous API calls and integrated Continuous Integration/Continuous Deployment (CI/CD) pipelines to automate the testing process
- Successfully deployed the application publicly within two months of development

Jan 2022 – Apr 2022 **UBC Course Database API + Website** **Vancouver, CAN**
- Integrated UBC course and classroom information as a REST API server, supporting custom JSON queries including aggregations
- Adhered to a structured Test-Driven Development process, implementing components such as runtime data structures, query parsers, query execution engines using Typescript, and web front-end interfaces using React
- The deployed version offers average users a seamless search experience for UBC classes and rooms, successfully passing 95% of black-box tests

Oct 2021 – Sept 2022 **Unity 3D Tactics Game** **Vancouver, CAN**
- Collaborated as a developer within an eight-person multidisciplinary team, including three developers, to develop and deploy a Tactics Game on Steam
- Researched and implemented A* pathfinding, providing core pathfinding functionality for both AI and user agents
- Optimized the agent and reduced space requirements by 50% by caching search lookups using dynamic programming techniques
- Received funding support at the annual Game-On conference and successfully deployed the game on the Steam platform

SKILLS & INTERESTS

Programming Languages: C#, Java, Typescript, Python
Technical Frameworks: Unity, React, Vue
Interests: Classical Guitar (Grade 6), Photography, Game Development