Jingze Dai

Toronto, ON | Tel: +1 416.820.7562 | david1147062956@gmail.com
https://www.linkedin.com/in/jingze-dai/ | https://github.com/daijingz

SKILLS AND CAPABILITIES (Front-End | Back-End | Full-Stack | DevOps | Cloud | Machine Learning)

Technical Skills: **Advanced in** MongoDB/Redis, Rest APIs, XML, OpenGL, AWS, Db2, Pandas, Flask, Django, Azure, Agile, R, SDLC, TensorFlow, Typescript, NoSQL, Docker, Golang; **Proficient in** Python, Java, C/C++, C#, Latex, Haskell, Next.js, ASP.NET, JavaScript, HTML, CSS, Ruby, Haskell, SQL, Scala, JSON, Saleforce, SciPy/NumPy, Node.js, React.js, .NET, Git, Ubuntu, Angular, Linux/Unix, Android/MacOS, Swift, Kubernetes, Xcode, Rust, GraphQL, MS (Word, PowerShell, Excel).
Certifications: IBM Data Science, Machine Learning Specialization (Andrew Ng, Coursera), Problem-Solving Intermediate & Python Basic & Node.js Basic Certificate (HackerRank), Saleforce Development Professional, Deep Learning A-Z (Udemy).

WORK EXPERIENCE

Software Research Assistant Jan 2024 - Present
McMaster University, or with other institutions' researchers Toronto, ON

- Wrote 6 conditions' stochastic energy systems' simulation models, and conducted independent proofs for each part, which determined the formulas of optimal parameters triggering the minimal two-layer cost. (Submitted to **LOCO 2024, Paper 27**)
- Devised 2 innovative image-based CNN methods to detect V2X misbehavior messages, reaching a 20-class detection accuracy of 98% and a detection time within 0.1 second. (Published at **IEEE SecureTrans 2025, Paper 5**)
- Read 132 recent IoT publications, and summarized a survey indicating recent XAI applications. (Displayed at **ISICN 2025**)

Computer Science Course Teaching Assistant (CS 1XC3 & CS 3SH3) May 2023 - Dec 2023
McMaster University Hamilton, ON

- Crafted 16 categories of operating system functions, taught C programming and LaTeX documentation to 200+ students, which achieved a 95% positive feedback rate for clarity and effectiveness.
- Evaluated students' 32 C code assignments and lab projects using a standardized rubric, ensuring fair grading and providing detailed feedback that clarified 110+ points of confusion for students.

Software Developer (Coop) Sept 2021 - Apr 2022
Government of Ontario, CYSSC services (Ministry of Children, Community, and Social Services) Toronto, ON

- Developed 5 different MCCSS service websites, and resolved 3 existing bugs and errors. Incorporated login, questionnaire and appointment functions on the webpage, with 870 users more each month.
- Applied Angular, MySQL, Python, and Java to build an automated tester to test the website (login pages and fingerprint checks). Developed over 220 test cases, with shown 18 errors and exceptions. Mitigated all mentioned errors.

EDUCATION

Honors Computer Science, McMaster University Hamilton, ON
Bachelor of Applied Science **(First Class Honors, Graduate With Distinction)** **Date Awarded**: Apr 2023
Major in Computer Science **Cumulative GPA**: 3.64/4.0, **Major GPA**: 3.64/4.0; **Dean's List 2021 - 2023**
Relevant Coursework: Data Analysis, Software Engineering; Operating Systems; Algorithms; Human Interactions; Machine Learning; Artificial Intelligence; Computer Networks and Security; Natural Language and Image Processing; Federated Learning; Data Privacy; Graphics and Animation; Game Design; Automated Testing; Mobile Developments; Concurrent Systems

PROJECTS

MuseScore - Music notation and composition (https://github.com/musescore/MuseScore**)** Dec 2022 - Present

- Implemented 3 new mouse cursor shape effects when dragging 3 different movable panels and sections.
- Engineered 2 novel approaches to insert braille panels on the view menu, and inserted 1 hot key to enable/disable the braille panel. Inserting 2 option arrows to increase the braille function visibility.

Drasil - Generate All the Things (https://github.com/JacquesCarette/Drasil**)** Jan 2022 - Present

- Mitigated 25 issues from Haskell automatic generations, improved 32 existing code segments with expected format.
- Inserted 8 groups' reference and constraint components the SRS documentation, added 20+ components to its website.
- Inspected 7 tricky and complicated execution errors' messages, and discovered their reasons and fixing methods.

Algorithm Design Implementations (https://github.com/daijingz/Algorithm-and-Design**)** May 2021 - Present

- Wrote over 70 kinds of algorithm implementations programs in Python, Java, C++, C, Haskell. (With 36 unit testing parts)
- Constructed 8 application projects applying some algorithms, improving at least 30% performance