

Tong Liu

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EDUCATION

University of Toronto, St. George

Toronto, ON

Bachelor of Science (Hons.) in Applied Mathematics, Major in Statistics | Distinction

Sep 2017 – June 2021

Relevant coursework: Advanced Calculus, Data Structures, Databases, Graph Theory, Non-Linear Optimization, Partial Differential Equations, Probability, Real Analysis, Stochastic Process, Software Design, and System Design

PROFESSIONAL EXPERIENCE

Dayforce

Toronto, ON

Software Developer III

Nov 2023 – Now

- Demonstrated advanced proficiency in computational logic, addressing complex features such as Implicit Grouping, Nested Filtering, Hierarchical CSV, and JSON-Specific Filtering for Data Mapping.
- Implemented recursive SQL to update nested JSON structures within a T-SQL script, incorporating the JSON Update method for backward compatibility and enhanced database robustness for over 20+ existing client-side configurations.
- Collaborated with product managers to elevate Front-End validation and error message design, ensuring a superior user experience and streamlining the configuration process.
- Led successful migration of team's infrastructure from Azure DevOps to GitHub, implemented robust ruleset for pull request validation and continuous integration.

Software Developer II

July 2022 – Nov 2023

- Played a key role in the launch of 'Integration Studio', a product that empowers clients to transfer data in and out of Dayforce with customized transformation rules. This feature-rich solution contributed to a 23+% increase in the customer base.
- Contributed to the development of 30+ features and addressed 8+ urgent patch items within a 6-month time-frame for the Company's Flagship Product, maintaining an impressive 82% bug-free rate.
- Achieved Front-End skill enhancement goals, overseeing 62% of tasks in the Front-End Repository through adept use of the React Framework and Typescript.

industrious CRM

Pickering, ON

Junior Developer

Sep 2021 – June 2022

- Spearheaded the development and deployment of the 'ZAP' app for QA purposes, catering to diverse client organizations.
- Configured data schema and executed a Mass Data Upload for a Pharmaceutical Company Client with over 24k accounts.
- Conducted the execution and evaluation of more than 50 test cases, subsequently reporting test results upon the project delivery related to the University Health Network.
- Pioneered the implementation of an automated feature that generates Salesforce's 'Appointment' records by extracting and utilizing JSON data from the API-integrated website 'Motoinsight,' resulting in an enriched customer experience.

PROJECTS

Database System of International Airport | *Java, PostgreSQL, Shell*

Mar 2021

- Designed and developed an all-encompassing single-server airport application, supporting operations for 10+ airlines and 25+ airports. This solution optimized staff tasks by facilitating the seamless booking, modification, or cancellation of flights, seat adjustments, and easy access to relevant information.
- Formulated and executed intricate queries, incorporating recursive queries and sub-queries, to extract flight information with optimal performance.

Ted-Styled Online Conference System | *Git, Java*

Nov 2020

- Collaborated within a team of five to design and develop an online conference platform with diverse functionalities, including real-time chats, event bookings, and attendee sign-ups.
- Utilized UML diagrams for object classification and implemented the system, applying design patterns such as Observer, Builder, Factory, and Iterator to enhance the architecture.

TECHNICAL SKILLS

Languages: C#, HTML, Java, JavaScript, Python, R, SQL, and TypeScript

Software and Tools: .NET, Azure DevOps, Git, IntelliJ IDEA, Jest, JSON, PyCharm, React, Visual Studio, VS Code and XML

PUBLICATIONS

Jiang, Y.H. et al. (Apr. 2021). "The Coupling/Minorization/Drift Approach to Markov Chain Convergence Rates". In: *Notices of the American Mathematical Society* 68.4, pp. 471–479. DOI: 10.1090/noti2253.

Jiang, Yu Hang et al. (Oct. 2021). "Convergence Rates of Attractive-Repulsive MCMC Algorithms". In: *Methodology and Computing in Applied Probability*. ISSN: 1573-7713. DOI: 10.1007/s11009-021-09909-y. URL: <https://doi.org/10.1007/s11009-021-09909-y>.