

EMPLOYMENT

Full-stack Software Engineer	Riskfuel Analytics	Feb 2022 – Present
<ul style="list-style-type: none">Designed and implemented various full-stack web applications, including customer-facing demos, internal machine learning (ML) tools, and data processing pipelines, utilizing technologies such as React, Next.js, GraphQL, FastAPI, Python, Docker, Kubernetes, and various databases (PostgreSQL, CockroachDB, Redis).Responsible for system design, architecture, and implementation across the entire stack, including authentication/authorization, UI/UX design, database design, continuous integration/deployment, branching strategies, and test case management.Led and mentored a team of developers, providing guidance on full-stack development, Kubernetes, and other technologies, while also managing project management tools (JIRA) and agile processes (scrum boards, backlogs).Developed custom 3D interactive visualizations using Three.js for demonstrating machine learning models, neural network activations, and volatility surfaces, showcasing expertise in data visualization and interactive web experiences.Implemented DevOps practices, including Kubernetes cluster administration, CI/CD pipelines, monitoring (Prometheus, Grafana), logging (Loki), and automated testing (unit tests, end-to-end tests).Spearheaded various projects, such as a VAE demo (interactive volatility charts and surfaces with Three.js), Lever (real-time ML parameter tweaking), and Garage (data generation, processing, and training pipelines), demonstrating proficiency in machine learning and data engineering.		
Software Developer	T&T Power Group	Mar 2020 – Feb 2022
<ul style="list-style-type: none">Conceptualized and executed a comprehensive full-stack solution (Python/Postgres/React) for remote monitoring of power generators via MODBUS TCP/IP.Led the development and maintenance of an internal ERP system (Python/XML/JavaScript), achieving significant milestones including the implementation of mission-critical, rigorously tested features like service scheduling, resulting in an 80% reduction in service management workload.Successfully migrated a legacy codebase and production database with zero data loss, multiple times.Managed development operations across projects, ensuring routine backups and streamlined CI/CD processes via Jenkins.		
Full-stack Software Developer	Eramosa Engineering	Jan 2019 – Mar 2020
<ul style="list-style-type: none">Engineered Portlet/Servlet (JSP/jQuery) web applications for a mature enterprise SCADA reporting and data visualization/processing software, complemented by Java-based back-end REST services (Jersey JAX-RS/JAXB/Tomcat).Crafted and delivered two iOS/Android business applications using React-Native, including a mobile companion to the legacy SCADA reporting system and a custom work reporting app embraced by over 100 users within the inaugural month.Optimized build times by 87% using Gradle, alongside efficiency enhancements through algorithmic analysis and concurrent/asynchronous programming.Introduced agile methodologies like code review, continuous integration/deployment, and test-driven development to streamline project workflows.		
Head Tracking Developer Intern	Revision Military	Jun 2018 – Aug 2018
<ul style="list-style-type: none">Independently constructed a black-box sensor fusion testing platform for validating helmet sensor fusion algorithms, comprising a Python-controlled robot arm, a native Android app, and a JavaFX desktop application.		
Software Test Developer Intern	GE Digital	May 2017 – Dec 2017
<ul style="list-style-type: none">Authored, refined, and automated behavior-driven development test cases using Selenium for a network security device.Collaborated cross-functionally within agile frameworks to ensure punctual and thorough testing for regular product releases.Enhanced stability of the test framework, resulting in an over 80% reduction in bugs/defects within the initial three months.Implemented parallelization of test suite runs, cutting total testing runtime by 50%.		

EDUCATION

Bachelor of Computer Science

University of Windsor

2018

- Graduated with a 4.0 GPA

PERSONAL PROJECTS

- **chat.zachshaver.com**. An LLM-powered pre-interview chatbot built with Langchain, Python, and React.
- **express-openapi-zod**. An express router extension to auto-generate OpenAPI specifications and typescript types based on Zod schemas.
- **say-what**. An always-on 'rolling' audio recorder for Android, written in native Kotlin.
- **zachshaver.com**. My portfolio, built with React and Typescript.
- **Indepocket**. A collaborative task list manager for mobile, built with React-Native and Firebase.
- **react-native-midi & Midio**. A midi driver & a mobile application that uses it to connect midi controllers and play sounds.
- **Juzahach**. An Internet-of-Things system for tracking vehicles. Android trackers, a Node.js REST server and React web app.

ADDITIONAL EXPERIENCE & AWARDS

- 2023** **Certified Kubernetes Administrator (CKA)**, Linux Foundation
- 2016 – 2018** **Computer Science Teaching Assistant**, University of Windsor. Assisted in teaching various computer science courses to students over 5 semesters. Grading, lessons, office hours, and small lectures.
- 2016 – 2018** **Dean's List and President's Honour Roll**, Faculty of Science, University of Windsor
- 2016 – 2017** **Highest GPA** in Bachelor of Computer Science Program, University of Windsor
- 2016** **Golden Key International Honour Society**

TECHNOLOGIES & SKILLS

Languages	Typescript, Javascript, Python, Golang, Bash, HTML, CSS, & JSP. Experience with Java, Rust, Assembly, C, C# & C++.
Databases	Postgres, CockroachDB, MySQL, Realm, SQLite, & Neo4j. Experience with SQL Server and specialty/legacy databases like Kenitica & Microsoft Access
Libraries	React, React-Native, Redux, jQuery, Express, Material UI, D3, Three.js, Android, iOS, JavaFX, Qt, Next.js, Chart.js, NX, Pytest, Jest, styled-components, AsyncIO, & Prisma ORM.
Tools	NodeJS, npm, Jenkins, Docker, Gradle, Swagger, Selenium, Cucumber, Gherkin, Tomcat, Git, GitHub, & Flask.
Dev Ops	Kubernetes, AWS, CI/CD, Docker Image Registries (ie Harbor, GHCR), Prometheus, Grafana, Helm, Argo Workflows, & Garden.io.
Testing	End-to-end (e2e), integration, and unit testing (Automated and Manual). Test Case Management, Test Driven Development (TDD) & Behaviour Driven Development (BDD).
Project Management	Agile Methodologies, Git Respository & Issue trackers management, Release Management, Scrum, Writing User Stories and Acceptance Criteria, Mentoring Junior Members.
Frameworks	Pulsar, Android, Odoo, Liferay, Firebase, iOS, & JavaFX. Experience with Qt.
Miscellaneous	Full-stack, DevOps, Agile, Concurrency, Algorithms, Data structures, Distributed computing, Testing (TDD/BDD), Microservices, REST, VPN, UML, Design Documents, System Design, Software Architecture, UX/UI Design, & UI Mockups