

Zachary Bricknell

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EDUCATION

Trent University Peterborough, Ontario
Bachelor of Science in Computer Science April 2024
Specialization: Software Engineering
Relevant Coursework: Application of AI; Capstone; Web Development; Advanced Algorithms; Software Architecture

WORK EXPERIENCE

Iterayt Remote
Software Developer Intern January 2024 – Present

- Developed frontend UI features using React and Tailwind, enhancing user experience and interface responsiveness.
- Contributed to scalable backend services with Python, Node.js, and C#, improving system performance and reliability.
- Enhanced development by leveraging Docker for quick testing, deployment, and scaling services.
- Wrote comprehensive integration and unit tests, reducing potential production incidents.
- Authored technical documentation and user guides, enhancing usability and maintainability.
- Implemented design patterns to support code quality, resulting in less refactoring and maintaining clean code
- Handled persistence CRUD operations in REST APIs via Sequelize ORM, optimizing data management and retrieval.

PROJECTS

LiDAR Noise Reduction and Analysis - Project Pinecone

- Developed noise reduction algorithms in Python, significantly reducing taper extraction failure rates.
- Transformed raw LiDAR point cloud data into precise tree taper models using Open3D, aiding forestry management.
- Employed machine learning techniques with Scikit-learn for effective data analysis.
- Coordinated with key stakeholders using Agile methodologies, incorporating iterative feedback to ensure timely and successful completion.
- Presented findings to stakeholders, influencing informed forestry decisions.

Discord Data Collection Agent - TrentUBuddy

- Designed and implemented a Discord bot using Python, JavaScript, and SQL
- Automated data retrieval from Trent University's website with BeautifulSoup and Selenium, saving students administrative time.
- Published a Python package on PyPI, facilitating easy deployment and accessibility.
- Managed a live beta test with over 100 students, refining functionality based on feedback.
- Enhanced student support by integrating real-time data and responsive design.

SKILLS

Languages: C++, C#, Python, JavaScript, TypeScript, SQL, MySQL, PHP, HTML5, CSS

Libraries and Frameworks: React, React Native, Next.js, Expo, Node.js, .NET

Databases: MySQL, SQL Server

Tools: Git, Docker, Selenium, BeautifulSoup, Open3d, Numpy, Scikit-learn

Methodologies: Agile Development, Test-Driven Development (TDD), RESTful API Design