

Bhav Culleechurn

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Education

University of Guelph – Bachelor of Computing in Computer Science

Sep 2020 - Dec 2024

Honours Computer Science with a Minor in Psychology

Experience

Web Developer | Woodrill Ltd., Groundwork Department

Guelph, ON – June 2024 – Present

- Built geospatial features for Groundwork's digital soil mapping portal, including a Copernicus imagery viewer and a nutrient-based field zoning tool generating shapefile prescriptions. Developed 3D soil sampling tools and a live GPS-powered coring display for real-time navigation and sampling accuracy.
- Supported internal workflows through custom GIS-related utilities and assisted with general programming tasks across the department.

Skills

Languages: JavaScript, PHP, C, Java, Python, HTML, CSS, SQL (PostgreSQL, MySQL, MariaDB)

Frameworks & Technologies: Node.js, Fastify, Express.js, Three.js, Docker, React, Spring Boot, Flask, Git

Methodologies & Practices: Real-Time WebSockets, API Design, Linux Infrastructure, Reverse Proxying & SSL

Personal Projects

webcafe.dev, Multiplayer Virtual Space Engine - *Node.js, WebSockets, Three.js, Linux, Nginx, VPS* webcafe.dev

- Implemented a server-authoritative real-time simulation with WebSockets and smooth networked movement interpolation.
- Built distributed 3D rendering in Three.js supporting desktop and mobile. Self-managed deployment on a Linux VPS with SSL, systemd service orchestration, and Nginx reverse proxying.

netkuma.js, Low-Level Networking Micro-Framework - *Node.js, TCP Sockets* github.com/bculleec/netkuma

- Implemented a minimal HTTP framework on raw TCP with custom request parsing, routing, replies, and static file serving; deployed a live site running fully on netkuma.

cozy-beige-theme, VS Code Theme github.com/bculleec/cozybeige-theme

- Created a minimalist beige theme for Visual Studio Code, with 2000+ downloads and a 5-star user rating.

Academic Projects

GeoJobSearch, Full Stack Web Application - *React, Spring Boot, MySQL, MariaDB, Docker, Python, Java*

- Developed a full-stack job searching web application as part of a 6-person Agile team.
- Built React frontend interfaces and Spring Boot backend services with RESTful APIs and user authentication.
- Designed MySQL schema and implemented web scraping in Python with BeautifulSoup to populate job listings.

LSTM-RNN-Based Sign Language Video Recognition - *Python, TensorFlow, OpenCV*

- Built and evaluated an LSTM-based sign language recognition model on the WSASL dataset with preprocessing and comparative performance analysis.

C Language Compiler - *Java*

- Built a simplified C compiler in Java with lexical, syntax, and semantic analysis.
- Generated syntax trees, symbol tables, and intermediate code with performance-focused design.

Interests

Real-time networking, geospatial tech, Linux systems, 3D graphics, fitness, bossa nova, Elden Ring, PS2