Vinesh Benny

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SKILLS

Languages: Python, Java, TypeScript, C, Rust, Lua, SQL, HTML, Solidity, CSS, Haskell, mongosh, bash, Scheme
Frameworks/Databases: Angular, Node.js, Express.js, MongoDB, Neo4j, PostgreSQL, Firebase, Microservices
Tools/Technologies: AWS, Docker, Bash, Dagger, Maven, Postman, Git, Jira, Unix, OpenGrok, Treesitter

EDUCATION

University of Toronto - Honors Bachelor of Science   Sep. 2020 – Apr. 2024
Major in Computer Science — *Specialization in Software Engineering Stream*   Toronto, Ontario

EXPERIENCE

Software Developer Co-op   Sep. 2022 – Dec. 2022
BlackBerry QNX — *C, Jira, Salesforce, OpenGrok, VMWare*   Mississauga, Ontario
- Debugged the kernel of the **POSIX-compliant QNX real-time operating system**.
- Worked in the integration team in a customer-facing role where the major task was debugging the kernel with focus on **thread communication, synchronization,** and **process scheduling**.
- Collaborated with other developers to develop and implement software patches and fixes to resolve **15+** issues found during the debugging process.

Teaching Assistant   Jan. 2022 – Present
University of Toronto — *CSCA20, CSCB09*   Toronto, Ontario
- Conducted weekly tutorial sessions with over **40** students going over concepts in **software engineering**, **Introduction to Programming** and **Systems Programming** in **C** and **bash/zsh** while also assisting students with labs/assignments.
- Enhanced the understanding of multiple languages such as **Python** and **C** through answering questions on the discussion board, during tutorials, and in inverted lectures.
- Created solutions for past finals from 2015 – 2022 as a resource used by *100+* students in the course.

PROJECTS

⬡ ProtoBufs — *C, Protocol Buffers, OpenSSL*   Sep. 2023 – Dec. 2023
- Developed a **C** library to serialize and deserialize data using **Protocol Buffers** and **OpenSSL** for secure communication using asymmetric **RSA** encryption.
- Implemented a **client-server** model to demonstrate the library's functionality and performance.

MyBnB Database — *MySQL, Java*   May 2023 – Aug. 2023
- Designed and implemented a **MySQL** database for a **AirBnB** clone using **Java** to manage the backend.
- Utilized **JDBC** to connect to the database and implemented **CRUD** operations to manage the database.

Pintos — *C, Operating Systems, GDB*   May 2023 – Aug. 2023
- Implemented **priority scheduling**, **advanced scheduling algorithms**, **virtual memory** and **file systems** in **C**.
- Gained experience with **GDB** to debug and test the **Pintos** operating system.

⬡ Scholarly — *TypeScript, Next.js/ReactJS, PeerJS, PostgreSQL, Docker, Lightsail* Jan. 2023 – Apr. 2023
- Developed a peer-to-peer video chat web application in **NextJS (React)** for live online tutoring.
- Implemented video chat functionality using PeerJS, and utilized numerous backend/frontend API's such as **Stripe**, **FullCalendar**, **SendGrid** for additional features, paired with a robust backend architecture using **Node.js/TypeScript** and **PostgreSQL** to ensure resilience and scalability.

⬡ Weast — *Python, AWS, MongoDB, SQLite, Git, PaperTrail, OpenAI*   Jun. 2021 – Present
- Collaborated with a peer to build an interactive multi-purpose autosharding **Discord bot** using **python**.
- Implemented **cloud logging** and **remote server control** to facilitate remote development.
- Built backend from scratch to store images on **AWS**, with associated metadata on **MongoDB**, for advanced tagging and analytics.
- Deployed the bot in a public university discord server with over **500** users and got consistent interaction.
- Setup and hosted the bot on an **EC2** instance using task scheduling, **batch scripting** and collaboration using **git**.