Roopdilawar Singh

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Education

University of Alberta **Sep. 2020 – Current**

Bachelor of Science in Computer Science - Specialization (3.6/4.0 GPA) *Edmonton, Alberta*

Relevant Coursework

- Data Structures
- Software Methodology
- Algorithms Analysis
- Database Management
- Artificial Intelligence
- Internet Technology
- Systems Programming
- Computer Architecture

Experience

Meta **May 2024 – Current**

Contingent Worker *Remote*

- Working at Meta as a Full Time Contingent Worker in the Silicon Validation team, helping develop Meta's next generation of training accelerators and ASICs.

Meta **May 2022 – September 2023**

Contingent Worker *Remote*

- Worked at Meta as a Contingent Worker in the Silicon Validation team, through HCL Tech.
- Architected robust CI/CD pipelines for compiling, testing, and deploying Firmware packages for our infrastructure systems, resulting in a remarkable 3x reduction in release times.
- Leveraged a suite of internal tools and frameworks, including Conveyor, Sandcastle, and Chronos, to develop it.
- Utilized REST APIs and Hack functions for seamless integration of the pipeline with our web services, automating the testing workflow and enhancing efficiency.
- Revamped an existing CI/CD pipeline by introducing intelligent test analysis, allowing the system to automatically identify and disregard noncritical failures, expediting the approval process for releases.
- Assisted in automating tests and creating testing frameworks to boost validation for Meta's new Inference Accelerator, enhancing product quality and efficiency.
- Developed a Python based Test Coverage Analysis tool to bolster randomized testing progress tracking, significantly enhancing efficiency and enabling constrained randomization.
- Utilized internal tools (Daiquery, Unidash) and public libraries (Presto, Pandas) to strengthen the project's foundation for robust data processing.
- Created an intuitive Tableau-like analytics page for user-friendly visualization of Test Coverage statistics, aiding decision-making and testing strategy for our Silicon Chips.
- Designed a Python based Test Randomization framework for AutoVal, enhancing validation flexibility and implementing constrained randomization.
- Utilized advanced Silicon validation tools like Protium/Palladium ASIC emulators to run the tests in our frameworks.

HCL Tech **May 2022 – September 2023 & May 2024 – Current**

Software Developer Intern *Remote*

- Worked at Meta as a Contingent Worker through HCL, for the duration of my internship.

Projects

Decentralized Social Media App | *React, Django, Javascript, HTML/CSS* **February 2024**

- Led development of a decentralized social media platform using React, Django, Heroku, and PostgreSQL, enabling seamless interconnectivity across diverse nodes for a decentralized communication network.
- Implemented a REST API-compliant system for interoperability between various social media applications, allowing users to view posts and follow others across different platforms.

QR Code Game | *Android Studio, Java, Firebase, Git* **March 2022**

- Designed a QR code scanning game Android app, inspired by Pokemon Go, with geolocation, cloud photo storage, and a global leaderboard.
- Utilized various SDKs and APIs, including Maps Embed and Camera, and a Firebase datatbase, to enhance app functionality.

Typing Skills Tester | *RISC-V* **November 2021**

- Created an interactive Assembly based typing game in RISC-V, incorporating score tracking, timer, and clock features.
- Implemented dynamic scoring based on typing speed and error frequency, providing precise performance assessment.

Technical Skills

Languages: Python, C, Javascript, HTML/CSS, RISC-V, Bash, MongoDB, SQL
Developer Tools: VS Code, GitHub, Android Studio, Linux