ARCHIT VERMA

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EDUCATION

SIMON FRASER UNIVERSITY — Jan 2019 - Present

- Bachelor of Applied Science in Computing Science.
- Graduating in August 2024

TECHNICAL SKILLS

- **Programming Languages:** C/C++, Java, Python, JavaScript, HTML, CSS, Typescript, React, Assembly language (x86), Haskell, Kotlin, XML, Bash, R.
- **Concepts:** OOP, A*, BFS, DFS, MDP, Data Structures, Constraint Problems, Binary Tree, Threads, Semantics, Android Development, Computer vision and graphics, Computational Data Science, Cybersecurity.
- **Applications:** Git, Figma, Balsamiq, Android Studio, Docker, Nginx, Postman, Visual Code, MATLAB, Linux environment (Debian, Ubuntu, etc.), Windows, MacOS, Vim, Firebase, ArcGIS.
- **Hardware:** Arduino, Raspberry Pi4, Marlin Firmware, Klipper Firmware.
- **Framework:** Express.js, Node.js, Django, Vue.js, Next.js, Jest, Junit, Spark.

PROFESSIONAL EXPERIENCE

Simon Fraser University (SFU) — BURNABY, BC

- **RESEARCH ASSISTANT (WORK-STUDY PROGRAM)** — **Sept 2023 - Dec 2023**
  - Assisted Prof. Shahram Payandeh in developing a pose detection and correction app using **Mediapipe**, **Python**, **Tensorflow**, and **OpenCV**, monitoring aging individuals and recommending exercises to prevent posture-related health issues.

Rapidia Tech Inc. — VANCOUVER, BC

- **SOFTWARE ENGINEER (PART-TIME)** — **Jan 2023 - May 2023**
  - Upgraded Rapidia Host V3 **REST APIs** to **OPEN APIs**, enhancing efficiency and integrated Rapidia Slicer with **Cura**. Developed a **Python** AI **reducing paste wastage by 70%** and improving print quality. Played a key role in project planning and documentation.
- **SOFTWARE ENGINEER CO-OP** — **Jan 2022 - Dec 2022**
  - Upgraded Rapidia Host to a **microservice setup** on **Raspberry Pi 4**, boosting printer performance. Integrated **Docker**, **Nginx**, **REST APIs**, **Gcode processing**, and 3D modeling with **Three.js**. As a Full-Stack Engineer, developed key services with **Bash**, **Express.js**, **TypeScript** (front-end and back-end), **React.js**, **Redux**, and **Python**, ensuring robust printer management and collaborating on the full software lifecycle. This upgrade enabled wireless printer access on the same network.

TECHNICAL PROJECTS

- **DIshCovery (Food Recognition and Recipe Recommender App)** — **MAR 2024 - MAR 2024**
  - In CMPT 419 (Human and Data-Centric AI), I collaborated with two colleagues to develop **DishCovery**, a web app using **Django**, **TensorFlow**, **CNN**, and **ResNet**. We trained a food recognition AI on **Roboflow** data to provide recipes based on detected ingredients and integrated GPT-4 APIs for personalized recommendations.
  - Project on GitHub: https://github.com/sbail01/fruit-app
- **3D RECONSTRUCTION PROJECT** — **NOV 2023 - DEC 2023**
  - In CMPT 412 (Intro to Computer Vision), developed a **Python** framework for 3D reconstruction using epipolar geometry and depth algorithms, with a GUI for epipolar matching, showcasing its use in AR and autonomous navigation.
- **SIGN LANGUAGE LEARNING APP (FLUENT HANDS)** — **NOV 2023 - DEC 2023**
  - Developed an **Android** app in **Kotlin** for ASL learning, using **Mediapipe** and **XML,** login activity uses **firebase APIs**. In a team of five, I created the camera activity, learning/result pages, and integrated **Mediapipe** for gesture recognition.
  - Project on GitHub: [group-18](https://github.com/Architv27/group-18). Website: https://sites.google.com/view/fluenthands/home

INTERESTS

- Computer Vision & AR/VR
- Immersive Game Development
- Cultural Exploration Travel

GOALS

- Aim to develop a unique AR game that fuses real and digital worlds, elevating storytelling and gameplay in digital entertainment.
- Seeking projects in AI and computer graphics.