Nirmal Chaudhari

3rd Year Software Engineering | Seeking Winter/Summer 2024 Co-Op
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EDUCATION

McMaster University Sep 2021 - May 2026
B.Eng. Software Engineering – Year 3 (GPA: 3.98) Hamilton, ON

- Awards: NSERC USRA, McMaster Excellence Award, Dean's Honour List (2021-2023)

WORK EXPERIENCE

McSCert May 2023 – Aug 2023
Software Research Intern (NSERC USRA) Hamilton, ON

- Developed a new merge tool using **Python** to improve source-code merging for Python & Java code.
- Designed a **data structure** that mimics **Concrete Syntax Trees** for statically & dynamically typed languages.
- Frequently used **Git** to collaborate with other developers and integrated our tool with Git to merge code.
- Improved the semantic accuracy over existing solutions (jDime & Spork) by **19%** and **90%** respectively.
- Regularly **performed tests** to validate results by using the developer's desired version as the benchmark.

Software for Love Sep 2021 – May 2023
Frontend Developer Remote

- Collaborated with developers in a virtual environment using **Git** to develop web applications for clients.
- Developed user-interactive web pages using **JavaScript**, **HTML** and **CSS** within the **ReactJS** framework.
- Published applications using **Gatsby Cloud** and monitored their stats to improve user accessibility by **20%**.
- Regularly attended meetings with leads to discuss progress, and next steps for various projects using Zoom.

PROJECTS

Open-Web-Library (OWL) Jul 2023 - Current
Group Personal Project

- Working with 2 others to develop an online library where any author can publish their books.
- Used ReactJS framework to develop the Frontend and styled responsive pages using **Tailwind** CSS.
- Designed the relational database for authors, users and books using **PostgreSQL**.
- Using **GraphQL** to make API requests from the frontend to improve efficiency for a large database.

Terrain-Generation Apr 2023
2AA4 Project

- Developed a terrain-generator in **Java** that resembles what famous games like Minecraft use for their maps.
- Structured the code to use software **design patterns** including Decorator, Builder and Observer patterns.
- Designed **Class & Sequence Diagrams** using **PlantUML** to plan the code before implementation.
- Regularly extended existing code to give user more variability in terrain generation, adding over **9 flags**.

InstaCal Jan 2023
DeltaHacks IX Project

- Worked with a team for 24h to develop a website that processes images of food and returns its nutrients.
- Used ReactJS to develop the User-Interface where the user can upload the picture of the food.
- Trained a **yolov5** model to identify various foods and output results into a JSON format using **Google Collab**.
- Utilized **Flask** to create an API to which our backend will post data, and our frontend will retrieve the data.

Q-Arm Project Nov 2021
1P13 Project

- Developed efficient Object-Oriented codes using Python to identify and place tools in various bins.
- Improved efficiency by **13%** by analyzing data from virtual simulations to predict the real-world behaviour.
- Uploaded programs to the physical arm by saving codes to a **Raspberry Pi** and connecting it to a Q-Arm.

SKILLS

Programming Languages: Python, Java, C, Assembly, Bash, JavaScript, R, Verilog
Web Development: HTML, CSS, NodeJS, ReactJS, Gatsby Cloud
Tools: Git, Ubuntu, Docker, SQL, Quartus, Raspberry Pi