Manav Patel

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EDUCATION

University of Calgary   Alberta, Canada
Bachelor of Science in Computer Science | GPA 3.92/4.0 (Dean's List 2023-2025)   *Sept. 2023 – April 2027*

EXPERIENCE

Software Development Intern   Aug 2025
Empowered Futures   *Toronto, Canada*
- Incoming Software development Intern at Empowered Futures

Software Development Engineer   Apr 2025 – Present
Independent Professional | Azure DevOps, Docker, Python, Java, C, PowerShell, Git   *Remote, Canada*
- Spearheaded developments to enable scalable infrastructure and deployment automation on Azure DevOps, supporting high-profile national events (organized by MasterCard, Enfocom), handling up to 500 participants
- Reduced QA cycles by 35% and improved system reliability across competition environments by authoring build and validation scripts for automated challenge testing, boosting system reliability across all environments
- Engineered end-to-end CI/CD workflows leveraging Docker, resulting in a 30% reduction in deployment time

Deputy Vice-President   Jul 2024 – Present
The CyberSecurity Club | AWS, Docker, CTFd, Digital Ocean, Python, Java, C, C++   *Calgary, AB*
- Enabled rapid, scalable deployment of 40+ CTF challenges by implementing Docker-based containerization across multiple national hackathons, resulting in improved environment stability for 70+ concurrent teams
- Maintained zero downtime and supported 100+ teams during major club events by provisioning and managing AWS EC2 instances with fault-tolerant architecture, enhancing reliability for club websites serving 1,700+ members

Software Development Research Intern   May 2025 – Aug 2025
University of Calgary | C++, OpenMP, Boost, NTL, GProf, Sage, Pari GP, Linux, Git   *Calgary, AB*
- Selected as a research student among 200+ applicants to develop optimized C++ algorithms to accelerate computation and handle billions of cubic number fields efficiently, saving several months of compute time
- Facilitated the large-scale tabulation of cubic number fields beyond the 10^6 fields covered by the last major computation in 1990, leveraging advanced computational resources and techniques on ARC servers

Machine Learning Research Intern   Apr 2024 – Jun 2024
Vision Research Lab | Python, PyTorch, BERT, CLIP-ViT, BLIP, Flask, TailwindCSS   *Calgary, AB*
- Led a 6 member team in developing and training sentiment analysis model designed to analyze social media posts
- Developed and optimized data preprocessing and augmentation pipelines, applied hyperparameter tuning and regularization techniques to mitigate overfitting, resulting in a 17% increase in model prediction accuracy
- Leveraged advanced LLM Model Ensemble techniques and integrated CLIP Vision-Transformer to jointly analyze multi-modal inputs, achieving 80% in overall contextual sentiment prediction, including textual and visual data

PROJECTS

NutriSync | *Python, Flask, React, TypeScript, NodeJS, PostgreSQL, psycopg2, Scikit-Learn*   Mar 2025
- Directed a 4 member team to create a full stack recipe management system with REST API, role based access levels (member, moderator, admin), cookie cache enforced user restrictions and automatic URL redirection.
- Built a personalized recipe recommendation system using Scikit-Learn, achieving 80% positive user experience through tailored suggestions using past user specific analytics (likes, tracked recipes), based on 250+ reviews

Game Center | *Java, Maven, Figma, JUnit, JavaFX, SceneBuilder, CSS*   Jan 2025 – Mar 2025
- Led a 10 member software engineering team in designing and delivering a scalable game hub platform witha fully functional matchmaking system connected to a database enabling users to play multiple games seamlessly
- Authored 75+ unit, integration, and end-to-end tests using JUnit, achieving 90%+ code test coverage

TECHNICAL SKILLS

Languages: Python, Java, C/C++, SQL, TypeScript, HTML/CSS, Assembly
Developer Tools, Frameworks & Libraries:TensorFlow, PyTorch, Keras, Flask, SpringBoot, React, NodeJS, ASP.NET, pandas, TailwindCSS, OpenMP, Tkinter, BeautifulSoup, Figma, JUnit, Git, VSCode, Linux