Aashna Parikh

Victoria, British Columbia | +1 (780) 289 0899 | aashnajigneshbhaip@uvic.ca | www.linkedin.com/in/aashnaparikh | github.com/aashnaparikh

EDUCATION

University Of Victoria – Victoria, British Columbia   **Expected May 2028**
Bachelor Of Science, Combined Degree in Computer Science & Mathematics
RELEVANT COURSEWORK: Data Structures & Algorithms, Database Systems, Computer Architecture, Discrete Mathematics, Numerical Analysis, Statistical Methods

TECHNICAL SKILLS

Languages: Python, Java, JavaScript, TypeScript, AVR, C, SQL, HTML5/CSS3, Shell/Bash
Frameworks & ML: React, Angular, Node.js, Express, FastAPI, PyTorch, TensorFlow, Scikit-Learn, OpenCV
Tools, DevOps & Design: Git, Docker, Linux, Arduino, Vercel, Railway, Figma, Blender, SolidWorks, CAD, Adobe Premiere Pro, Power BI, Cascade

RELEVANT EXPERIENCE

FortisBC   **Jan. 2026 – Present.**
Software Engineering Lead
- Led development and deployment of real-time PLC control software for renewable natural gas infrastructure supporting 24/7 industrial operations.
- Built 15+ PLC control modules (PID loops, fault detection, pressure regulation) maintaining ±2% pressure stability under dynamic conditions.
- Implemented real-time control and telemetry for 50+ sensors and I/O channels, enabling automated monitoring and safety responses.
- Developed and maintained 1,000+ lines of production control software with Git-based version control and structured documentation.
- Led software integration, testing, and commissioning, resolving 10+ control-system faults to ensure stable industrial deployment.

Technologies: PLC Programming, Real-Time Systems, PID Control, Industrial Automation, Control Algorithms, Git, Systems Integration

SOLIDS (Software For Large-Scale Distributed Systems Lab)   **Jan. 2026 – Present.**
Undergraduate Research Assistant
- Built Python-based ML pipelines processing 10k+ multi-sensor environmental data points to analyze distributed marine sensing systems and identify ecosystem stressors.
- Developed predictive models and time-series workflows for automated analysis of distributed underwater sensor network data.
- Conducted cybersecurity threat modeling for distributed sensing infrastructure, analyzing attack surfaces and designing secure communication components for underwater sensor networks.
- Produced data visualization and analytics tools for sensor datasets and contributed to publication-ready research for an upcoming peer-reviewed paper on secure environmental monitoring systems.

Technologies: Python, Machine Learning, Data Pipelines, Cybersecurity, Threat Modeling, Distributed Systems, Sensor Networks, Data Visualization

Fraser Health Authority   **Sep. 2025 – Dec. 2025.**
Technical Lead
- Prototyped and engineered a hospital-grade pediatric MRI simulator using C++, Python, and React, to create a high-fidelity patient training system.
- Designed and tested real-time control logic and low-latency backend services with FastAPI, enabling responsive system behavior for interactive MRI simulation workflows.
- Built React/Redux interfaces for simulation control, and user interaction, enabling rapid prototype iteration and usability testing with clinical stakeholders.
- Led integration, validation, and Git-based development workflows, delivering a production-ready prototype aimed at reducing pediatric sedation during MRI procedures.

Technologies: C++, Python, React, Redux, FastAPI, Real-Time Systems, Medical Software (IEC 62304), Prototyping, System Integration, Git

UVic Mcpherson Library | Digital Scholarship Commons   **Sep. 2025 – Dec. 2025.**
Software Assistant
- Designed and prototyped 3D models and CAD components using Fusion 360, SolidWorks, and Blender.
- Optimized digital design and 3D printing workflows, troubleshooting modeling, slicing, and fabrication issues for student and research prototypes.
- Provided technical guidance on CAD, modeling, and rapid prototyping, enabling users to translate concepts into manufacturable designs.
- Contributed to hands-on workshops and technical demos promoting digital fabrication, design iteration, and creative problem-solving.

Technologies: Fusion 360, SolidWorks, Blender, CAD Design, 3D Modeling, 3D Printing, Rapid Prototyping, Digital Fabrication

TECHNICAL PROJECTS

Guardian — Full-Stack AI Healthcare Diagnostic Platform
Python, PyTorch, FastAPI, React, TypeScript, TensorFlow, Scikit-Learn, OpenCV
- Built a full-stack AI diagnostic platform integrating 3 ML pipelines (X-ray classification, patient risk scoring, dosage recommendation) using FastAPI and React..
- Trained a ResNet-18 CNN (11M parameters) for multi-label chest X-ray classification (15 conditions) using transfer learning on the NIH ChestXray14 dataset (112k images).
- Developed clinical prediction models including Gradient Boosting (ROC-AUC 0.9853) and an MLP fusion model (98.25% accuracy) for patient risk scoring and treatment recommendations.
- Built REST APIs and real-time inference pipeline to generate unified diagnostic reports from image and patient vitals inputs

BDC-Nexus — Enterprise Predictive Analytics Platform
Java, Spring Boot, PostgreSQL, React, Vite, Tailwind, Docker, GitHub Actions
- Built a full-stack analytics platform simulating Business Data Cloud workflows, with a Spring Boot API and React dashboard for sales transaction management and analytics.
- Designed PostgreSQL data models and REST APIs to manage regional sales transactions and support real-time revenue aggregation queries.
- Implemented OLS regression forecasting and analytics services to generate regional revenue predictions and business insights.
- Engineered production-style architecture with CI/CD (GitHub Actions), OpenAPI/Swagger docs, and automated JUnit and Jest test suites.

LEADERSHIP & INVOLVEMENT

Undergraduate Research Assistant for Faculty Of Engineering: Develop high-performance single-cell RNA-seq analysis pipelines by optimizing Scanpy with Codon, contributing to ML-driven bioinformatics research. | **NASA Space Apps Hackathon — Workshop Director:** Delivered a project management workshop enabling teams to scope, plan, and execute technical projects in a global NASA hackathon. | **Women in Science Symposium — Symposium Director:** Directed planning and execution of a university STEM conference connecting students with researchers, industry mentors, and interdisciplinary collaborators.