

PRANJOL DAS

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TECHNICAL SKILLS

Languages: Python, Typescript, C++, Ruby, SQL, JavaScript, Java, C#, Kotlin, Bash, Swift, HTML5/SCSS

Tools & Technologies: Git, AWS, React, Angular, Next.js, Node.js, DynamoDB, .NET, Docker, k8s, GitHub Actions, Firebase

AI & ML: Claude Code, Cursor, RAG, MCP, Agent Orchestration, Pandas, scikit-learn, PyTorch, OpenCV, NumPy, Matplotlib

EXPERIENCE

Software Developer Intern

January 2026 – April 2026

Poket Inc.

Toronto, ON

- Spearheaded an end-to-end AI form builder for core **Angular** client platform (**10k+ users**), reducing manual config by **90%** via natural-language prompts, integrating **GPT-4o-mini** with structured JSON output enforcement
- Reduced QA regression cycles from **15h** → **1h** by architecting automated E2E test suites using **Detox + Appium** for **React Native** (iOS/Android) and **Playwright** for web, achieving **95%** critical-journey coverage
- Delivered media upload pipelines for Android app (**5k+ users**), handling files up to **100 MB** using **Java** and **AWS S3**
- Shipped a production transcription system using **OpenAI Whisper**, delivering **96%** faster processing than audio playback by leveraging **AWS CloudFront** and **FFmpeg**
- Streamlined **DevOps** workflows for iOS deployment, cutting build-to-release time by **55%** through a **CI/CD** pipeline with **Xcode**, **GitHub Actions**, and LLM-powered code review for automated quality checks

Robotics Software Engineer

January 2026 – Present

WATonomous - Autonomous Vehicle Team (Design Team)

Waterloo, ON

- Built a **ROS 2** navigation stack in **C++** by implementing costmap generation and global map fusion using odometry, enabling reliable path planning at **10 Hz** update frequency for competition-grade autonomous vehicle
- Integrated a **YOLO** computer vision model into the perception stack, achieving **~50 ms** live object detection latency

Machine Learning Research Intern

June 2025 – August 2025

Queen's University, School of Computing

Kingston, ON

- Engineered a **Random Forest** classifier detecting cyberattacks on healthcare IoT devices, outperforming a **Naive Bayes** baseline by **18%** using **Python**
- Isolated most important features from **111k+ ECU-IoHT** network traffic samples through a preprocessing pipeline in **pandas** and **scikit-learn**, applying label encoding and Recursive Feature Elimination (**RFE**)
- Validated model generalization via stratified 10-fold cross-validation, achieving **94%** accuracy, **93%** F1-score, and **91%** CV score across five imbalanced attack classes
- Presented a research report to faculty advisors, documenting complete cyberattack classification workflow

PROJECTS

🔗 Clinical Delirium Monitor | *Python, Arduino, C++, SQLite, matplotlib, pytest, tkinter*

- Engineered an IoT hospital delirium-prevention monitor (**Arduino** → **Python**) processing **120** sensor readings/min across light, sound, and hydration levels, replacing manual nurse checks with automated **bluetooth** alerting
- Architected a patient risk-scoring engine with **SQLite** logging and a live **matplotlib** dashboard, delivering real-time clinical alerts at sub **400 ms** latency, supported with 23 **pytest** unit tests

🔗 WiseMotion (*Hack the North Winner*) | *Python, OpenCV, MediaPipe, Dlib, Git*

- Developed a real-time driver safety monitoring system to detect poor posture and drowsiness via **computer vision**
- Implemented **Dlib's** 68-point facial landmark model with a tuned Eye Aspect Ratio algorithm, achieving **92%** drowsiness classification precision with sub **200 ms** verbal alert latency

🔗 Personal Voice Assistant (*QHacks Finalist*) | *Python, SQLite, Selenium, REST API, FastAPI*

- Created a voice assistant in **Python** with a speech recognition pipeline, supporting real-time task execution across API, browser automation, and local data layers
- Implemented an **OAuth 2.0** API layer with **SQLite** caching, achieving **70%** cache hit rate on repeated queries

EDUCATION

University of Waterloo

Waterloo, ON

Bachelor of Applied Science in Computer Engineering

Expected April 2030

- Arthur F. Church Entrance Scholarship (**\$10k**), President's Scholarship of Distinction (**\$5k**)