Somana Debnath

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Education

University of Ottawa | BASc Computer Engineering (Co-op) **Sep. 2022 – Dec. 2026**

- GPA: 3.7/4.0 | Dean's Honours List: Winter 2023, Fall 2023 & Winter 2026 | **AWS SheBuilds** Mentee (2026)
- **Coursework:** Applied ML, AI, Data Structures & Algorithms, Networking, Computer Architecture
- **IEEE uOttawa Women in Engineering:** Chair (2025–26), Vice-Chair (2024–25), VP External Affairs (2022–24)

Technical Skills

Languages: Python, Java, TypeScript, JavaScript, C++, C#, SQL, Bash, PowerShell, R, HTML/CSS
Frameworks & AI: React, Next.js, Tailwind, Framer Motion, Flask, Spring Boot, Node.js, PyTorch, scikit-learn
Cloud & DevOps: Docker, Kubernetes, CI/CD, GitHub Actions, Vercel, AWS, Azure, Linux, Windows Server
Data & Tools: PostgreSQL, Supabase, Oracle, UiPath, Playwright, Claude Code (AI-native), Vitest, Git, JIRA

Experience

Database & Automation Intern | Public Services and Procurement Canada **May 2026 – Aug. 2026**

- Engineered an **RPA** monitoring bot with **UiPath, PowerShell, and Python** that simulates live user workflows through gateways and firewalls to detect production outages, cutting mean-time-to-detection **40%**
- Accelerated the bot's development with an **AI-native workflow in Claude Code**, from scripting to testing
- Built **CI/CD pipelines** that automatically test and deploy the bot across production environments
- Built **Flask REST APIs** on **Docker and Kubernetes**; monitored **Oracle** via **OEM and SQL**

Infrastructure Engineer Intern | Public Services and Procurement Canada **Sep. 2025 – Dec. 2025**

- Managed **20+ Linux servers** through upgrades, refreshes, and lifecycle management, improving uptime **15%**
- Built **10+ scripts** in **Python, Bash, PowerShell** across **8 environments**, cutting manual work **30%**
- Supported **15+ deployments** via **Git-based releases**, improving deployment efficiency **25%**
- Troubleshot **15+ production incidents** with Linux diagnostics and logs, cutting resolution time **20%**

Software Developer Intern | Agriculture and Agri-Food Canada **Jan. 2025 – Apr. 2025**

- Engineered full-stack **React and Python** features with **REST APIs** for DINA, serving **100+ researchers**
- Developed reusable **Python** modules in dina-py for **database operations and API integrations**
- Optimized pipelines with **Nextflow, Snakemake, and Bash**, cutting run time **35%** on **10+ datasets**
- Wrote **unit and integration tests**, fixed full-stack defects, and contributed to **CI/CD** and **code reviews**

IT Analyst Intern | Public Services and Procurement Canada **May 2024 – Aug. 2024**

- Provisioned **50+ Active Directory accounts** through **JIRA** and supported server administration workflows
- Wrote **SQL and PowerShell** scripts monitoring **15+ databases**, saving **6 hours/week** of manual checks

Projects

Jars: Family Allowance Platform on a Double-Entry Ledger | GitHub 2026

- Built a kids' allowance app in **Next.js, TypeScript, and Supabase** with Spend, Save, and Give jars
- Designed a **double-entry ledger** in integer cents; **Postgres** rejects unbalanced entries at commit
- Moved money via atomic **RPC functions**, isolated families with **RLS**, and paid interest via **pg_cron**
- Caught a double-interest bug and an auth bypass with **65 unit, property-based, and integration tests**

Pulse: Synthetic Monitoring Platform | GitHub 2026

- Built an open-source take on my PSPC bot: **Playwright** user journeys run on a **GitHub Actions** schedule
- Opened incidents after **2 consecutive failures** to cut false alarms, alerting via **Discord** with screenshots
- Computed uptime and **p95 latency** in **SQL** with idempotent run recording; status page on **Vercel**

Bridge: Real-Time ASL Translation System (Capstone) | GitHub 2026

- Built a two-glove ASL translator in a 6-person team: **10 flex sensors**, **2 nine-axis IMUs**, **2 ESP32s** over **BLE**
- Developed the **React** app for real-time sensor monitoring, hand visualization, calibration, and data collection
- Built an **ML** pipeline recognizing **24 static ASL letters**, with **Raspberry Pi** text and speech output