Anushka Punukollu

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EDUCATION

University of Waterloo — Waterloo, ON
Bachelor of Computer Science — *Sept. 2025 – Apr. 2030*
Scholarships: Ted Rogers Scholar *($26,800)*, BMO200 William A. Downe Scholar *($10,000)*, Loran Finalist *($6,000)*

EXPERIENCE

Software Engineering Intern — July 2025 – September 2025
Aview International
- Built video review portal serving **300+ content creators** with **CRUD backend, MongoDB schema**, role-based access control, and version tracking to streamline collaboration workflows.
- Revamped video processing pipelines to increase throughput by **30%** and reduce post-processing time by **50 hours/month** for multilingual content.
- Engineered **RESTful APIs in TypeScript (Nest.js)** for the core website, distribution channels, and analytics dashboards using **modular architecture** with reusable services, DTOs, and controllers.
- Developed autonomous tool to **fetch, parse, and publish Facebook posts** to distribution channels.

Software Engineering Intern — July 2024 – Aug. 2024
Nokia
- Migrated **10,000+ lines** of legacy code across **120+ files** in the Network Service Platform (NSP) from JavaScript to **TypeScript and React**, improving type safety, reducing load time, and catching errors while compiling.
- Refactored front-end architecture using **React and Redux state management** for platform dashboard, including NSP Indicators, OAM tests, and telemetry tools, optimizing performance with **Chrome DevTools**.
- Presented the updated platform to senior executives as a part of the **Future Tech program**.

PROJECTS

FakeSeek (TechNova Winner) 🔗 | *TypeScript, React, Node.js, Python, MongoDB, Gemini API, Beautiful Soup*
- Built full-stack deepfake detection platform integrating **Google Gemini API** to analyze facial distortions, lighting inconsistencies, and texture artifacts in real-time.
- Implemented **Auth0 OAuth, MongoDB Atlas storage**, and responsive UI with **React and Tailwind CSS** for secure user authentication and scan history.
- Automated impersonation monitoring using **Beautiful Soup** to scrape Google search for mentions of deepfakes.

Go Neural Network 🔗 | *Python, PyTorch, NumPy, Monte Carlo Tree Search*
- Built Go-playing AI using **PyTorch** with **dual-head CNN** (policy/value) and **residual blocks**, integrated **MCTS** for move search, trained via **self-play reinforcement learning** with replay buffer.
- Implemented complete Go engine with ko rule, capture detection, and **automated territory scoring**; optimized with **NumPy** and developed **CLI** for training and interactive gameplay.

SucroSoil 🔗 | *Python, Bayesian Regression, Material Science*
- Developed a soil additive by **synthesizing hydrogels** from sugarcane bagasse to prevent farmland degradation.
- Secured **$30K+** from Emergent Ventures, the 1517 Fund, and Ingenious+ to support R&D and testing in India.
- Applied **Bayesian regression** to model relationships between compound ratios and soil performance, identifying hydrogel formulations with **94% predictive accuracy**. Patent pending.

TECHNICAL SKILLS

Languages: Python, C++, C, CSS, Java, JavaScript, TypeScript, SQL, Swift
Frameworks: React, Next.js, Node.js, NestJS, OpenCV, TensorFlow, Pandas, PyTorch, NumPy, Flask
Tools: Git, GitHub Actions, Docker, Redis, MongoDB, AWS, Firebase, Figma, Postman

AWARDS

Canadian Informatics Workshop | Bronze Medalist — *May 2025*

Ranked among the **top 10 female competitive programmers out of 10,000+** participants in the Canadian Computing Contest; invited to Canada's EGOI selection camp. Solved competitive programming problems in Python, Java, and C++.