

Varun Mathur

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SKILLS

Languages: C, C++, Java, JavaScript, TypeScript, Python, SQL, HTML, CSS

Frameworks: Spring Boot, Django, React, Node, Next.js, PyTorch

Tools: Git, Linux, Bash, Docker, Kubernetes, AWS, GitLab, Jenkins, Grafana, Redis

EXPERIENCE

PointClickCare

Sep 2025 – Dec 2025

Mississauga, ON

Software Engineering Intern | React, TypeScript, GraphQL, SQL, Azure OpenAI

- Owned a service supporting **1,054 skilled nursing facilities** to manage QAPI plans, automating regulatory workflows required for Medicare reimbursement with **99.9% uptime**
- Implemented a quality metrics dashboard serving facility operations teams to aggregate MDS indicators, removing manual reconciliation and saving **2+ hours per facility weekly**
- Authored DAX queries backing dashboards, reducing query latency by **45%** and minimizing data inconsistencies

Definity Financial Corporation

Jan 2025 – Apr 2025

Waterloo, ON

Test Automation Developer Intern | Java, Spring Boot, Docker, Kubernetes, Jenkins

- Built a microservice orchestration layer for cross-platform test infrastructure, eliminating **40+ QA hours per release**
- Designed **CI/CD** pipelines that checked releases against regression test results, accelerating delivery for **20+ teams** and reducing release delays by **25%**
- Refactored test execution to enable parallel validation, doubling coverage and cutting runtime from **180 to 80 minutes**

Alaan (YC W23)

May 2024 – Aug 2024

Dubai, UAE

Engineering & Data Insights Intern | Python, Django, OpenAI, AWS, Redis, REST

- Engineered a receipt parsing pipeline handling **90,000+ receipts**, replacing a third-party OCR dependency and reducing operational costs by **\$7,000/month**
- Shipped a retrieval-augmented customer support system resolving **60%** of inbound queries and generating **80+ qualified leads**, reducing manually handled tickets
- Devised a fraud detection service processing **3,000+** Visa transactions daily, improving operational risk visibility

RESEARCH & LEADERSHIP

University of Waterloo

Dec 2025 – Present

Waterloo, ON

ML Security Research Assistant | PyTorch, NumPy, Foolbox

- Led adversarial robustness experiments for diffusion-based defenses, building reproducible multi-GPU pipelines that enabled **20+ runs** and reduced experimental turnaround time by **3x**

WATonomous

Jan 2025 – Aug 2025

Waterloo, ON

Software Engineer | C++, ROS2, Lanelet2

- Integrated an HD map loader into the autonomy stack, improving autonomous vehicle positioning accuracy by **25%**
- Implemented an obstacle avoidance module using Probabilistic Gap Prediction, increasing trajectory success by **35%**

PROJECTS

Knock-Knock

DEMO | GitHub

| Next.js, TypeScript, OpenAI, MySQL, Apollo.io
Cold Emailing & Cover Letter Generation Platform

- Created a full stack outreach system sourcing recruiters and generating cold emails, securing an interview at **Alaan**
- Developed a cover letter generator with Overleaf REST and OpenAI, **adopted across multiple internship applications**

LeetDoc

DEMO | GitHub

| Next.js, TypeScript, Supabase, OpenAI
LeetCode Tracker with Smart Review Scheduling

- Launched a Chrome extension and dashboard automating solution logging and reducing manual tracking by **90%**
- Added SM-2 spaced repetition to schedule personalized review reminders through Supabase Edge Functions

EDUCATION

University of Waterloo

Sep 2023 – Apr 2028

Waterloo, ON

Bachelor of Computer Science, Honours | CGPA: 3.9/4

- Honours: President's Scholarship of Distinction, President's Research Award
- Coursework: Object Oriented Programming, Data Structures and Algorithms, Compilers, Operating Systems, Statistics