

Prakhar Gupta

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Education

University of Maryland, BS in Computer Science - Data Science Track

Aug 2022 – Present

- **Expected Graduation:** December 2025
- **Selected Coursework:** Algorithms, Advanced Data Structures, Compilers, Computer Vision, Elementary Theory of Computation, Discrete Structures, Human Computer Interaction, Organization of Programming Languages

Experience

Back End Development Intern, Piction Health – Boston, MA

June 2025 - Present

- Integrating existing schema/services with **third party APIs** including **EHRs** and **AI models/LLMs**
- Working on **legacy code** and **debugging/testing** in **Python, SQLAlchemy, Flask, PostgreSQL/Docker**
- **Collaborating** directly with CTO and engineering team

Front End Development Intern, Skan AI – Ottawa, ON

June 2024 – Aug 2024

- Implemented UI components in **Angular/HTML/JS/CSS** for client/internal use
- Integrated **D3.js charts** into UI components to visualize clickstream data
- **Collaborated with UX team** weekly designing **three custom web components**

Software/Data Analytics Intern, Metalmark Innovations – Cambridge, MA

June 2022 – Sept 2023

- Designed a **ML-based data analysis tool** using Pandas/NumPy to help researchers analyze experimental air quality data
- Implemented **Random Forest and Linear Regression models** to predict sensor readouts and extend sensor longevity
- Wrote **machine control programs** in Python to operate and validate the Tatama Air Purifier under various test conditions

Extracurriculars/Projects

Microsoft Hack4Good Hackathon: Peckham Inc.

Jan 2025 - Apr 2025

- **Collaborating with team** of Microsoft employees building an **Agentic AI Platform** to match differently-abled individuals with job opportunities
- Tools used: React, LLMs, Ollama, Azure, Semantic Kernel, YAML

Hack4Impact UMD - Technical Lead/Full Stack Engineer

Aug 2024 - Present

- Leveraging **React/TS, Tailwind, Firebase, Postgres, Heroku, legacy APIs, Salesforce**, etc to build **cloud-deployed solutions** for non-profits including the Breastfeeding Center of Greater Washington
- **Managing eight engineers** while **meeting weekly** with client, product managers, and designers

Custom Racket/Assembly Compiler

Dec 2024

- Built functional-language, self-hosting compiler including lexer, parser, Racket interpreter, and assembly compiler

Image Stitching Algorithm

Dec 2024

- Built a fully functional panoramic image stitching algorithm using SIFT, RANSAC, image warping/blending, and OpenCV tools
- Tools/Skills used: Python, OpenCV, Linear Algebra

Skills/Technologies

General Skills: Java, JS/TypeScript, C, C++ , C#, HTML, CSS, Python, Dafny, Haskell, Go, Rust, Dynamic Programming, AWS, Azure, Docker/Containers, SQL, Maven, Perl, XML, Firebase/Firestore, MongoDB, Scala, Kafka, TensorFlow, PyTorch, Linux

Front End Design: HTML/CSS, Angular, React, PHP, D3.js, Swift, Kotlin, Tailwind, Next.js, Vue.js

API Development: Flask, FastAPI, Node.js (Express), Ruby on Rails, Go, Django, Insomnia, Postman, cURL, OAuth 2.0, JWT, Docker, Kubernetes, Datadog

Collaborative Skills:

- Professional work in both professional/extracurricular settings (Skan AI, Metalmark Innovations/Hack4Impact UMD, Hack4Good)
- Proficiency in Git/Version Control, Agile Scrum methodology