

Nila Karthikesan

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EDUCATION

University of Maryland, College Park

B.S. in Computer Science, Minor in Engineering Technology

Society of Women Engineers

Director of Engineering

- Created over **50 functional projects**, distributed weekly, implementing concepts from lectures on JS/React/Node/CSS, Event-Handling, Testing, Rest APIs, Backend Services, Cloud Native Development.

College Park, MD

Aug. 2020 – May 2024

College Park, MD

2021 – 2024

EXPERIENCE

Software Engineer

Geico

May 2024 - Present

New York, NY

- Led development for **full-stack application** managing GEICO's server database repository, providing access to **100,000+ server records for 500+ engineers** and IT staff
- Implemented frontend using **React** and the backend using a **GraphQL API**, reducing server query time by **40%**
- Migrated scripts **Power BI to PostgreSQL**, achieving a **50% reduction in data processing time in Python**

Software Engineering Fellow

Palantir Technologies

Dec. 2023 – Jan 2024

New York, NY

- Developed a backend for a proxy service handling **10,000+ IPs & 100+ monthly users** on an AI platform.
- Improved project load time by **80%** (from minutes to seconds) using **Docker & Kubernetes** containers.

Software Engineering Intern

Comcast

May 2023 – Aug 2023

Washington, DC

- Developed a **full-stack platform** for content moderation using **React.js, Flask, and Open AI's Clip LLM** leading to a **15% increase in efficiency** in determining inappropriate content in Comcast's media.
- Implemented containerizing microservices architecture with **Docker, Kubernetes** improving scalability **40%**.
- Enhanced the data pipeline by integrating Elasticsearch, resulting in an **8x reduction in data retrieval times** and a **20% increase in user satisfaction** through faster and more accurate content flagging.
- Integrated **AWS services such as EC2, S3, and RDS** to handle large-scale media data storage and processing.

Software Engineering Intern

Delaware INBRE

May 2022 – Aug 2022

Wilmington, Delaware

- Led the development of a **full-stack application** for nanoparticle analysis, used by **100+ researchers**, improving data processing speed by **60%** and reducing manual effort by **30 weekly hours**.
- Automated workflows using **Pandas, NumPy, Airflow** reducing errors by **50%**, increasing productivity **25%**.
- Deployed the application on **AWS**, ensuring **99.9% uptime** and reducing operational costs by **15%**.
- Implemented **REST APIs** for data retrieving nanoparticle optical data from experimental datasets and computational simulations reducing response times by **35%** and enhancing tool integration.

PROJECTS

CLIP-Based Content Moderation System | *Python, FastAPI, Supabase, OpenAI CLIP, Docker, React*

2024

- Built a full-stack content moderation tool analyzing video/image embeddings via **OpenAI's CLIP model**.
- Implemented cosine similarity checks to detect inappropriate content based on user-defined keywords.
- Integrated frontend using **React** and backend via **FastAPI**, storing data in a **Supabase PostgreSQL** instance.
- Deployed modular services with **Docker**, supporting real-time video analysis and alert generation.

MyFitnessPal Clone + AI Meal Planner Agent | *FastAPI, Supabase, React, JWT, Recharts, Python*

2025

- Designed a full-stack fitness tracker where users log food, track macros, and visualize progress with **Recharts**.
- Implemented secure user authentication with **JWT tokens** and stored food/macro logs in **Supabase**.
- Developing an AI-powered agent that generates meal plans based on user's macro goals and dietary preferences.
- Built RESTful API using **FastAPI** and created modular frontend components in **React**.

TECHNICAL SKILLS

Languages: Java, Python, C/C++, SQL (Postgres), JavaScript, HTML/CSS, R

Frameworks: React, Node.js, Flask, JUnit, WordPress, Material-UI, FastAPI, GraphQL

Developer Tools: Git, Docker, TravisCI, Google Cloud Platform, VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse

Libraries: pandas, NumPy, Matplotlib