

# ABHINAV PILLAI

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## Education

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### University of Oklahoma — Norman, OK

Aug 2022 - May 2026

*Bachelor of Computer Science*

- Relevant Courses: Software Engineering, Artificial Intelligence, Operating Systems, Computer Architecture, Data Structures and Algorithms, Database Management Systems, Data Networks, Capstone

## Work Experience

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### University of Oklahoma

Sep 2025 – Present

*Software Engineering Undergraduate Research Assistant*

*Norman, OK*

- Mentored **40+ students** in Software Studio by preparing learning programs and fostering professional connections
- Taught lectures on front-end design principles, end-to-end prototyping, system design, and iterative development.

### Vast Vertex Media

Sep 2024 – Apr 2025

*Full-stack Software Engineer Intern*

*Norman, OK*

- Developed a scalable **full-stack** mobile application using **React Native, TypeScript, PostgreSQL, Azure, Power BI, and REST APIs**, supporting production deployment and analytics dashboards.
- Designed and built various responsive, user-friendly websites for clients using **Next.js, Tailwind CSS, Figma, and REST APIs**

### University of Oklahoma

Aug 2023 – Dec 2024

*Software Engineering Undergraduate Research Assistant*

*Norman, OK*

- Developed a full-stack **Next.js/Typescript based** platform, ONEngineering, that allowed for over **400+** active OU Graduate and Alumni Engineering students connect with university contacts and industry professionals
- Built **Python and C++** data ingestion pipelines leveraging RSS feeds to group student and alumni records, reducing recommendation deployment time by **50%**.

### UFLIP

Mar 2023 – Nov 2023

*Software Engineer Intern*

*Oklahoma City, OK*

- Utilized **CSS, SASS, Node.js, JS, HTML, and Figma** to create an intuitive and scalable user experience
- Improved website startup times by **60%** by replacing synchronous code with **asynchronous** functions and **API calls**

## Projects

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**NPD: EMS Call Analysis Tool** | *Source Code*

**Next.js | TypeScript | Python/Flask | SQL/AWS**

- Developed a full-stack web app that will allow **dispatchers** to get graded feedback on their calls using **WhisperX, Pandas, and ollama models**.
- Utilized **Next.js** for the user interface, **Python/Flask** for a **RESTful API** backend, and **SQL/AWS** for database

**Route Runners** | *Source Code* | *Blog*

**Next.js | TypeScript | Python/Flask**

- **Led the development** of a full-stack web application for **first responders**, utilizing **NextJS** and **TypeScript** for the frontend, and **Python + Flask** as the backend
- Implemented a **CI/CD pipeline** to convert drone footage into 3D models enabling **WebAR-based augmented reality** escape plans for first responders and citizens

## Leadership

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**Hacklahoma** | *Devpost*

**2022 – 2026**

- \* Winner for Best Use of **AI in Education 2024**

**India Association of Oklahoma**

**2016 – Present**

- \* C# Teacher at Beginner's Coding Bootcamp - 2019

## Technical Skills

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**Languages:** HTML5, CSS, JavaScript, Typescript, SQL, NOSQL, Python, Java, C++, C#

**Developer Tools:** Vercel, Postman, Power BI, Git/Github, Azure, npm, JSON, AWS EC2

**Libraries/Frameworks:** ReactJS, PostgreSQL, NextJS, NodeJS, .NET