Deep Goyal

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EDUCATION

Arizona State University — Tempe, Arizona
*Bachelor of **Computer Science**; GPA: 4.0* — *Est. May 2026*

EXPERIENCE

Infomaze Technologies — Remote
Software Engineer Intern — *Jun 2024 - Aug 2024*

- **Cost optimization with linear programming -** Reduced internal printing costs by 10% by developing an optimized job prioritization model using Python, with NumPy and PuLP.
- **NLP integration for job ranking -** Integrated SpaCy's Named Entity Recognition (NER) to process natural language prompts, automatically extracting relevant job information and prioritizing print jobs based on the profit-to-cost ratio.
- **API development for scalable marketplace -** Built RESTful API endpoints to support 1,000+ daily users, ensuring 2x scalability by leveraging Node.js, Express, and MongoDB.
- **Performance optimization with caching -** Improved user experience by reducing page load times by 25%, implementing caching strategies for static assets, data validation, and schema management using Mongoose.

ASU Automation Projects — Tempe, AZ
Fullstack Engineer — *Aug 2023 - Dec 2023*

- **Attendance automation for 100,000+ students -** Reduced manual input time by 50% by developing a system to automate attendance using Java, TypeScript, custom PCBs, HID card scanners, and frameworks like Spring Boot and React.
- **Automated testing pipeline for REST API -** Improved bug detection rates by 20% by developing unit tests and automated scripts for 30+ endpoints using Postman.

EPICS@ASU — Tempe, AZ
Frontend Lead — *Jan 2023 - May 2023*

- **UI development for attendance management system -** Achieved a 90% satisfaction rate by designing and implementing responsive front-end components using Next.js for the attendance management system.
- **Wireframe implementation -** Improved development efficiency by 25% by leading a team to design and implement wireframes using Figma, resulting in faster design iterations and better team collaboration.

Ira A. Fulton Schools of Engineering — Tempe, AZ
Teaching Assistant - Object Orientation, Data Structures and Algorithms — *Aug 2023 - Present*

- **Managed 62 undergraduate and PhD teaching assistants** to elevate lecture quality, create resources, and support systems for over 3000 students every semester.
- Led focused review workshops and curated **specialized study playlists on YouTube with over 70,000 views**, boosting student exam preparation and achieving an 85% class average in final exams.

PROJECTS

Verbalist.ai - *UC Berkeley Hackathon* — github.com/deep-goyal/verbalist

- Enabled hands-free document editing by integrating **Llama3 (8B)** with **Whisper AI** for real-time voice recognition and natural language processing, providing users with seamless voice-to-text conversion within VS Code using the **Extensions API** and **Numpy** for efficient data handling.
- Optimized response times by leveraging **Groq** interface, significantly reducing latency for voice commands, enabling fast, on-device processing of user inputs to improve editing performance.

Crisis Companion - *Harvard Hackathon* — github.com/deep-goyal/crisis-companion

- Built a real-time disaster resource app using **React Native** and **Flask**, integrating **Places API, Maps API, and ArcGIS REST API** to dynamically generate evacuation routes and provide users with critical information on nearby shelters and resources.
- Deployed the app using **Docker** containers to ensure scalability and efficient resource management, integrating **Defang** and **Selenium** to automate data scraping and provide up-to-date resource information during emergencies.

SKILLS

Languages: Typescript, JavaScript (ES7), HTML, CSS, Python, Java, C++, C, Swift
Technologies: Nextjs, MongoDB, Amazon Web Services, PostgreSQL, MySQL, Node.js, Git, Figma, Docker, Jenkins
APIs/Libraries: React, Redux, Flask, Numpy, Pandas, React Native, SpaCy NER, Express, Tailwind, GraphQL

AWARDS AND RECOGNITION

Outstanding Teaching Assistant of the Year: Won the award with record high nominations for efforts in boosting exam averages by 19% and providing exceptional material to supplement lectures.
Devils Invent Winner- 2nd Place: Developed a prototype to automate university's attendance taking procedures, securing a $1000 funding for continued development and implementation.