Yash Gupta

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Education

University of Wisconsin, Madison — Madison, WI

Bachelor of Science in Computer Science and Data Science, GPA 3.74 — *Expected May 2026*

- **Relevant Courses**: Advanced Data Structures & Algorithms, Distributed Systems, Machine Learning & Data Science in Python, Matrix Methods in Machine Learning, Database Management System Design & Implementation, Algorithm Theory, Operating Systems, Object Oriented Programming, Data Analysis & Statistical Inference in R, Linear Algebra, Calculus

Experience

Software Engineer Intern — May 2024 – Aug 2024

Qualcomm — *San Diego, CA*

- Collaborated with cross-functional teams on dynamic slot reallocation for Snapdragon emulation machines using Agile methodologies, leveraging sprint planning and standups while managing epic on Atlassian JIRA
- Developed a parallel ETL pipeline processing **50GB+** of JSON log data from a network drive with multithreaded Python and SQLite3; implemented real-time analytics dashboards in AWS QuickSight
- Led research, implementation, back-testing, and deployment of a Q-learning reinforcement learning model for dynamic slot reallocation, integrating a time series-based reward function, now in production and reducing wasted pending job delays by **28%**

Product Intern — Jun 2023 – Oct 2023

The Level Company — *New York City, NY*

- Developed large language models using GPT-4 and LangChain in Python with prompt engineering techniques to generate personalized messages alongside Google Sheets API to track message iteration pipeline, boosting response rates and engagement
- Automated advisor sourcing by integrating LinkedIn Sales Navigator with Python scripts to scrape and filter profile data, identifying **over 200 new advisors**, significantly reducing manual effort and improving efficiency
- Enhanced reengagement email campaigns using SendGridAPI and Python, resulting in **increased engagement by 50%**

Research Intern — Jun 2020 – Mar 2023

UC San Diego Division of Biomedical Informatics — *San Diego, CA*

- Developed a cross-cloud (AWS, GCP, Azure), blockchain-based system for federated medical data logging using Ethereum, Solidity, and Go-Ethereum (Geth), reducing query response time by **81%** compared to centralized solutions
- Designed and implemented an interactive front-end with Java, HTML/CSS, and Web3j, integrating automated table generation and real-time blockchain querying to enhance usability across **13 major health institutions**.
- **Co-authored** a JAMIA publication, presenting to National Institute of Health officials

Projects

enRollBadge | *ReactJS, TailwindCSS, Python, DigitalOcean, Shell, SQLite3, Flask* | enrollbadge.com

- Led a team of 4 developers to build a scalable web platform for UW Madison students, integrating real-time notifications for open class seats using RESTful APIs, cloud hosting, and efficient backend architecture, resulting in **1,000+ active users**
- Managed frontend development using ReactJS and Tailwind CSS, designing and implementing the core dynamic, searchable table, optimized for responsive performance and seamless class management via interactive UI components
- Implemented backend integration with Flask and Python, including JSON parsing algorithms to process and sync data efficiently

Zone In | *React JS, Python, Material UI, Three JS, Flask, DALL-E, Langchain* | Devpost

- Developed a chatbot using Langchain, HuggingFace embeddings, and ChromaDB to process zoning queries, integrating Python-based data preprocessing pipelines and synthetic dataset generation to enhance accuracy and scalability
- Designed a multi-stage image model with Langchain for custom context preprocessing systems and DALL-E for accurate property change visualization, utilizing Flask for seamless frontend deployment
- Utilized Google Maps API, PyPDF, and Pandas to process zoning codes and multimodal data, integrating geospatial analysis and document parsing to enhance decision-making; recognized as **a top 10 project** at Northwestern University's WildHacks 2024

trckr | *Python, SQL, AWS S3 & Lambda, CrewAI, APScheduler, Celery* | Demo

- Developed a full-stack job tracking application, integrating Gmail and Outlook APIs with OAuth2.0 authentication, and implemented modular backend architecture; attracted **50+ users** on the waitlist
- Engineered a multi-agent LLM system leveraging CrewAI, OpenAI, and Flask to process and transform thousands of emails into structured JSON outputs, utilizing Python and AWS Lambda for task management and low-latency performance
- Designed and implemented a highly scalable SQL database integrated with AWS S3, enabling real-time job status updates through asynchronous workflows with APScheduler and Celery to minimize server load

Technical Skills

Languages: Python, Java, JavaScript, SQL, C, C++, R, Bash, Solidity, HTML5/CSS3, Assembly, LaTeX, Typescript, Go
Web/App Development: ReactJS, React Native, TailwindCSS, Flask, Node.js, Django, Material UI, Three.js, Chainlit, Express.js
Machine Learning & Data Analysis: Tensorflow, Pytorch, Scikit-learn, Numpy, Pandas, HuggingFace, ChromaDB, Langchain, OpenAI, Excel
Tools & Platforms: Git/Github, JIRA, AWS (EC2, Quicksight, S3, Lambda), Docker, Kubernetes, Firebase, Google Cloud, SQLite, PostgreSQL, MongoDB, APScheduler, gRPC, Kafka, Cassandra, Spark, Hadoop, Postman, Nginx, DigitalOcean