Sneha Sundar

Software Engineer | **Artificial Intelligence, Machine Learning, Full-Stack Development**

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Education

University of Illinois at Urbana-Champaign May 2026
Bachelor of Science in Computer Science and Statistics *GPA: 3.72/4.0*

Skills

Languages: Python, JavaScript, TypeScript, C++, C, Java, HTML, CSS, SQL, R
Tools: React.js, Git/GitHub, Flask, MongoDB, Neo4j, Pandas, OpenCV, PyTorch, Tensorflow, NumPy, Django, Linux

Experience

University of Houston NSF REU Site | **Software Engineering Intern** May 2025 – Aug 2025
- Built a Python data pipeline using NumPy and OpenCV to preprocess and normalize 55K+ fingerprint images
- Optimized the attack algorithm to decrease execution runtime by 4.2x, enabling more efficient security auditing
- Created automated benchmarking scripts to compare attack methods and assess system security
- Designed a GPU-accelerated module to analyze fingerprint matching errors, aiding debugging and system validation

University of Illinois at Urbana-Champaign | **Backend Developer** Sep 2024 – Present
- Accelerated NLP experiments by architecting a scalable ETL pipeline in Python (Pandas, Boto3) to process over 1TB+ of gzip-compressed citation data directly from AWS S3, removing local storage bottlenecks
- Improved citation accuracy for 150K+ academic references using a fine-tuned SciBERT model, automating similarity scoring and saving researchers 100+ hours of manual checks, enhancing reliability of citation tracking
- Implemented interactive dashboards that enhanced citation confidence tracking, improving model evaluation

University of Illinois at Urbana-Champaign | **Teaching Assistant (Data Science)** Jan 2024 – Present
- Coordinated Git-based release of containerized Python Jupyter labs via CI/CD pipelines teaching pandas and Matplotlib for 1,000+ students, ensuring consistent version control and minimizing setup issues
- Mentored students in weekly office hours and collaborated with course staff as a team player to teach data loading, transformation, visualization, scikit-learn clustering and classification workflow, and debugging techniques

Discover Financial Services | **Sophomore Spark Participant** May 2025
- Selected as 1 of 80 sophomores nationwide, gaining Agile (Scrum, sprint planning) and software engineering skills
- Explored MongoDB and AWS in fraud detection demos, applying data analytics to fraud, risk, and financial markets

Arrcus | **Software Engineering Intern** Jun 2024 – Aug 2024
- Reduced team debugging time by 30% by engineering a multi-threaded Python log parser that automatically sorted and classified device logs by network protocol and distributed
- Created Python ETL pipelines (regex, pandas) to extract and structure log metrics for performance monitoring

Projects

PickMe: Restaurant Recommender | *React.js, Flask, Python, TypeScript, MongoDB, Git* Jan 2024 – May 2024
- Built and deployed full-stack React.js & Flask application to deliver personalized restaurant recommendations
- Leveraged Python KMeans clustering and Google Geolocation & Places APIs for location-aware suggestions
- Implemented Google OAuth and designed MongoDB schemas for user authentication, preferences, and history

Long Texts Summarizer | *Python, Flask, BeautifulSoup, NLTK, Jinja2, HTML/CSS, Git* May 2024
- Enabled rapid information synthesis by designing a Flask web service that extracts, aggregates, and summarizes lengthy Wikipedia articles, reducing manual reading time and improving accessibility of key insights
- Developed responsive frontend with HTML/CSS and Jinja2 templates; integrated NLTK for tokenization, stop-word removal, and extractive summarization with robust validation and error handling

Relevant Coursework

Computer Systems, Applied Machine Learning, User Interface Design, Software Design Lab, Database Systems, Data Structures, Computational Social Science, Algorithms, Full-Stack Development, Discrete Mathematics, Operating Systems, Numerical Methods, Distributed Systems, Statistical Modeling, Statistics and Probability 1&2