Sneha Sundar

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Education

University of Illinois at Urbana-Champaign May 2027
Bachelor of Science in Computer Science and Statistics *GPA: 3.71/4.0*

Skills

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

Experience

University of Houston NSF REU Site | **Security Software Intern** May 2025 – Present
- Constructed a Python pipeline with NumPy and OpenCV to preprocess and normalize 55K+ biometric samples
- Optimized genetic algorithm attacks from 17.8% to 100% success, achieving a 5.6× runtime speedup
- Benchmarked hill-climbing and brute-force methods via rigorous cross-validation to evaluate performance
- Implemented GPU-accelerated analytics with confidence-interval estimation and Matplotlib visualizations

Language Interaction Lab | **Machine Learning Engineer** Sep 2024 – Present
- Devised an automated Python AWS S3 ETL pipeline using gzip, pandas, and boto3 to ingest, preprocess, and catalog citation and full-text data, addressing local storage limitations and enabling scalable NLP workflows
- Trained a SciBERT model with custom sentence and aspect-level similarity estimators to score citation–source text similarity
- Built seaborn and Matplotlib dashboards to visualize citation confidence trends and drive data-driven insights

Siebel School of Computing and Data Science | **Course Assistant** 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 on data loading, transformation, visualization, and scikit-learn clustering and classification workflows, teaching debugging techniques and real-world applications of data science methods

Discover Financial Services | **Sophomore Spark Participant** May 2025
- Selected as 1 of 80 sophomores nationwide for a competitive mentorship program at Discover's headquarters, gaining exposure to software engineering workflows and Agile methodologies (Scrum, sprint planning)
- Explored tech stacks used by business technology teams, including MongoDB and AWS, and learned how data analytics supports fraud detection, customer insights, and data-driven decision-making in financial services

Arrcus | **Software Engineering Intern** Jun 2024 – Aug 2024
- Engineered multi-threaded Python log parser using pexpect and threading to categorize device logs by protocol
- Automated a scalable error-reporting pipeline using Python, Postfix, and Git to generate and distribute technical summaries to a global Customer Solutions Engineering team, streamlining the logging and distribution process
- 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
- Developed 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* May 2024
- Designed a Flask web service using requests and BeautifulSoup to extract and aggregate Wikipedia content
- Leveraged NLTK for tokenization, stop-word removal, and extractive summarization with comprehensive error handling and input validation

Relevant Coursework

Computer Systems, Software Design Lab, Database Systems, Data Structures, Computational Social Science, Algorithms, Discrete Mathematics, Linear Algebra, Numerical Methods, Statistics and Probability 1&2, Statistical Modeling, Natural Language Processing, Applied Bayesian Analysis, Web Programming, Data Science Discovery