Ram Goenka

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Education

University of Illinois Urbana-Champaign Aug. 2021 - May 2025

Bachelor of Science in Mathematics, Minors in Computer Science & Statistics

Relevant Coursework: Abstract Algebra, Artificial Intelligence, Computational Linguistics, Computer Systems, Database Systems, Data Structures, Differential Equations, Graph Theory, Machine Learning, Real Analysis, Statistical Modeling

Experience

Incoming Undergraduate Research Assistant: *Polymath Jr. REU* June 2024 - Present

- Incoming summer 2024 Undergraduate Research Assistant

Incoming Emerging Technology Intern: *Synchrony Financial* May 2024 - Present

- Incoming summer 2024 Emerging Technology Intern

Undergraduate Research Assistant: *Illinois Risk Lab* Aug. 2023 - Dec. 2023

- Collaborated with Dr. Runhuan Feng and Dr. Peixin Liu to investigate the evolution, history, and current state of Decentralized Autonomous Organizations (DAOs)
- Co-authored a report [link] on the historical evolution and current state of DAOs, synthesizing research findings and case studies to provide insightful perspectives on their development and future potential

Undergraduate Research Assistant: *Smith Lab @ University of Illinois Urbana-Champaign* Aug. 2023 - Present

- Collaborated with Dr. Rebecca Lee Smith on Center for Disease Control (CDC)-funded projects to transform existing traditional R-scripts into dynamic RShiny applications, enhancing vector control studies
- Revamped the data upload system in the application, enabling seamless dataset uploads, reducing data entry and processing times by an estimated 70% and facilitating instant visualization through descriptive plots
- Debugged the RShiny application, enabling it to handle 15% more specimens for extensive study

Software Engineering Intern: *COUNTRY Financial* May 2023 - Aug. 2023

- Refactored code for insurance processes and calculations from SAS to Python using Pandas, achieving a 12% improvement in code performance and speed. Implemented unit tests using PyTest for validation
- Deployed Azure Spring Applications using Microsoft Bicep, accelerating the implementation process. Composed comprehensive documentation to guide future use of Bicep in company software deployments
- Deployed an insurance-focused generative AI model, training it on relevant insurance concepts and company data

Software Engineering Intern: *National Center for Supercomputing Applications* Sep. 2022 - Sep. 2023

- Collaborated with the National Center for Atmospheric Research on Dr. Nicole Riemer's Atmospheric Chemistry Simulations web interface
- Developed time-series models for tracking aerosol particle concentrations using Python, D3.js and NetCDF files
- Enhanced website support for larger files and optimized frontend-to-backend efficiency for more accurate and refined model outputs

Undergraduate Teaching Assistant: *STAT 107 - Data Science Discovery @ UIUC* Aug. 2022 - Present

- Led weekly Python lab sessions of 30 students, aiding with lab prompts, conceptual questions and troubleshooting issues in Git, Visual Studio Code, and Python
- Conducted office hours for 1000+ students, offering guidance on data science concepts, programming, statistical concepts, homework problems, labs, micro-projects, and exam reviews

Undergraduate Teaching Assistant: *CS 124 - Introduction to Computer Science I @ UIUC* May 2022 - May 2023

- Guided 900+ student in computer science basics and Java programming language through online office hours, course forums, and homework tutorials
- Facilitated student learning by hosting quiz-review sessions answering essential conceptual questions. Designed and refined course material ensuring they were correct and instructive
- Mentored eight (8) first-time undergraduate TAs to familiarize them with the course interface and methodologies

Volunteer Experience

Project Mentor: *Summer of Side Projects @ UIUC* May 2023 - Aug. 2023

- Mentored 100 college students, providing detailed feedback and development support on individual Python projects, such as Flask applications and chatbots. Facilitated creative idea development and advanced coding proficiency
- Monitored the online summer camp forum to answer student questions regarding logistics and technical concepts

Technical Skills

Languages: Python, Java, C, C++, JavaScript, HTML, CSS, R, Kotlin, TypeScript, Mathematica, LaTeX, SQL, MATLAB
Tools: React.js, Node.js, Gatsby.js, Flask, Git, Pandas, PyTest, PyTorch, Docker, Django, Bash, Microsoft Azure, MongoDB