Arrhan Bhatia

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Education

University of Illinois Urbana Champaign May 2026
Bachelor of Science in Computer Engineering ***GPA: 3.97***

- Minor in Hoeft Technology and Management Program
- James Scholar honors program and Dean's List

Coursework: Computer Systems and Programming, Data Structures and Algorithms, Linear Algebra, Discrete Math

Technical Skills

Languages: Python, C, C++, JavaScript, Java, HTML, CSS, TypeScript
Frameworks/Tools: React.js, Node.js, MongoDB, PostgreSQL, Docker, AWS, Github Actions, Tensorflow, PySpark

Experience

National Center of Supercomputing Applications May 2024 – Present
Software Engineering Intern

- Developed machine learning models to determine key predictors of Syrian refugee distribution in Lebanon
- Built auto-regressive models to predict future refugee distribution, collaborating with advisors to United Nations humanitarian agencies to guide $53 million in aid with plans to publish findings in research journals
- Created an automated image processing tool using PaddleOCR to extract refugee counts of 1600+ districts per map reducing manual workload by over 10 hours per person

Realty Income June 2024 – August 2024
Machine Learning Intern

- Developed a big-box retail risk ML model, predicting 72% of store closures and enhancing investment decisions
- Implemented a company name matching algorithm using fuzzy string matching to unify tenant data across datasets, simplifying data integration and merging processes

Disruption Lab January 2024 – May 2024
Software Engineer

- Developed a machine learning-based malware detection tool for AMD using Hardware Performance Counters
- Engineered a data collection pipeline with automated benchmarking scripts using Bash and Python and integrating it with AMD's proprietary tools to streamline HPC metrics collection across various workloads
- Performed correlation analysis and PCA to reduce dimensionality of data to be used in malware detection models

Undergraduate Research Apprenticeship Program January 2024 – May 2024
Student Programmer

- Built a real-time political sentiment analysis dashboard using Node.js, React and PostgreSQL processing 5000+ daily social media posts and created D3.js visualizations enabling greater data comprehension for 50+ researchers
- Engineered a data analysis pipeline using Pandas and Python to add quantitative metrics to mentor's dissertation

Projects

Credit Card Recommendation Platform June 2024 – Present

- Building a full-stack credit card recommendation application using React, Node.js, and MongoDB, offering personalized credit card suggestions based on user surveys and financial data helping save 5+ hours on research
- Integrating Plaid API to securely analyze user bank transactions and enhance recommendation accuracy
- Leveraging Docker to containerize the application and plan to deploy on AWS EC2 to streamline deployment process and esnure scalability
- Implementing data encryption and secure API handling to protect user information

Daily News Digest August 2023 – December 2023

- Developed an application using Flask and React to gather current news articles daily based on my interests
- Utilized news APIs and web scraping techniques to gather articles of interest from various news sources

Loan Payment Predictor June 2023 – July 2023

- Developed a feed-forward neural network classifier using TensorFlow and identified key predictors of loan repayment using a 300,000-entry Lending Club dataset
- Performed data preprocessinga and feature engineering to achieve 89% accuracy in loan payment prediction