Varun Gande

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Education

Cornell University | Ithaca, NY — August 2020 – May 2024 (expected)

GPA: **4.16** / 4.30 | Dean's List

Bachelor of Science in **Operations Research and Information Engineering**.

Computer Science Coursework:
- Machine Learning
- OOP & Data Structures (Java)
- CS Organization
- Introduction to MATLAB

Operations Research Coursework:
- Practical Tools for OR, ML, DS
- Probability and Stats (I & II)
- Linear Optimization (I & II)
- Finan. & Manag. Accounting

Mathematics Coursework:
- Discrete Structures
- Differential Equations
- Linear Algebra
- Multivariable Calculus

Relevant Experience

Bloomberg | Incoming Software Engineering Intern — New York, NY | June 2023 – August 2023

Koren Lab (Cornell) | Undergraduate Researcher — Ithaca, NY | January 2022 – Present

- Developing Python/MATLAB genomics tools for genome-wide association studies in a Unix environment
- Evaluating the presence and expression of 900+ genes and small RNAs affected by novel quantitative trait loci (QTLs)
- Comparing novel *cis*-QTLs to other local QTL databases for expression and replication timing

Cornell Data Science | Education Subteam Lead — Ithaca, NY | August 2021 – present

- Handling recruitment, leading weekly meetings, and monitoring member progress on projects
- Running and advertising the team's Introductory Machine Learning class (INFO 1998), boosting enrollment by 75% during my tenure

National Science Foundation REU | Researcher — Dallas, TX | June 2021 – July 2021

- Optimized a cell assembly algorithm (Russo et al. 2017) to detect coordinated neurons more accurately from spike train sequences, resulting in a 20% reduction of spurious correlations
- Devised a protocol to measure dissipation of modal energies in the Fermi-Pasta-Ulam model

Projects

MathSearch | Skills: AWS, Git, Project Management

- Devising an interface using computer vision methods to search for compiled LaTeX within a PDF
- Working on translating inputs between the client-facing frontend and the backend machine learning model
- Developing a queueing layer to prevent request concurrency

Cricket Score Predictor | Skills: Scikit-learn, NumPy, Pandas, Matplotlib

- Analyzed 180k+ records and employed a linear regression and random forest regression model using Scikit-learn to predict T20 cricket innings scores
- Feature-engineered momentum and overall team skill features by pulling data from existing websites, increasing cross-validated accuracy by 11% and 5% in each model, respectively

Cornell Data Science Tutorials Blog | Skills: Markdown, Git, Ruby, HTML

- Co-created and currently supervising a Markdown-based tutorials blog with important data science topics

Additional Experience

Undergraduate Course Staff — August 2021 – Present

- Courses: CS 1112 (Introduction to MATLAB), ORIE 3300 (Optimization I), ENGRG 3400 (Engineering Project Team Onboarding), INFO 1998 (Introduction to Machine Learning)

Mathematics Tutor — August 2021 – present

- Providing personalized walk-in math help for Cornell students through collaborative instruction

eCornell Alpha Tester — March 2022 – July 2021

- Reviewed the eCornell 8-week ML Foundations course and provided concise feedback on design, UX, and content before public release

Skills & Interests

Languages: Python, SQL, MATLAB, Java, C, R.

Machine Learning: kNN, Decision Trees, Random Forest, Logistic Regression.

Technologies: Pandas, NumPy, Scikit-learn, Markdown, Matplotlib, PyTorch, LaTeX.

Tools: Git, Unix, Jupyter.

Interests: Cricket, Tennis, Bowling, Piano, Table Tennis, Traveling.