

# Aryan Mittal

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## EDUCATION

### Georgia Institute of Technology

Atlanta, GA

*Bachelor of Science, Double Major in Computer Science and Mathematics, GPA: 4.0*

*Expected May 2026*

- *Concentrations:* Intelligence, Information Internetworks, Probability & Statistics
- *Relevant Coursework:* Machine Learning, Data Structures & Algorithms, Probability & Statistical Theory, Advanced Game Theory, Advanced Linear Algebra, Artificial Intelligence, Honors Algorithms, Database Systems

## EXPERIENCE

### Software Engineering and Analytics Intern

June 2023 – August 2023

*UPS Supply Chain Solutions*

*Alpharetta, GA*

- Prototyped **98%** accurate cloud-based computer vision application for package damage detection and reporting
- Wrote **3** automated test suites for new workforce management system (WMS) to be used by **400K** employees
- Created **4** Power BI reports to track work item status across entire WMS project (**60+** personnel)
- Developed Python script to restructure timecard database (**1.5M** entries) and fix the pay rates for **350K** workers
- **Skills:** Power BI, Google Cloud Platform, BigQuery, Vertex AI, Python, Pandas, Flask, Java, Azure DevOps

### Sports Analytics Researcher

January 2023 – Present

*Joel Sokol Lab, School of Industrial and Systems Engineering, Georgia Tech*

*Atlanta, GA*

- Designed logistic regression/Markov chain (LRMC) model to generate improved NFL team rankings
- Outperforms consensus spread and top ratings in predicting NFL playoff outcomes (**63%** accuracy)
- Contracted by MLB team to work on project involving optimization in an operational setting (confidential)
- Currently creating statistical framework to optimize baseball lineups and better evaluate early-career players
- **Skills:** Python, R, Scikit-learn, Pandas, NumPy, Gurobi, Optimization

### Mathematics Teaching Assistant

August 2023 – Present

*School of Mathematics, Georgia Tech*

*Atlanta, GA*

- Teach weekly linear algebra studio sessions to **30+** students and hold office hours
- Grade student homework, quiz/exam papers, and projects

### Mathematics Researcher

October 2021 – May 2023

*Clayton State University Department of Mathematics*

*Morrow, GA*

- Invented graph-theoretic game with applications in statistical physics and studied optimal play strategies
- Proved sharp upper bound theorem for game score and implemented best-play algorithm
- Co-authored final paper (submitted for publication)

## PROJECTS

### Home Rental Price Prediction | [github.com/thearyanmittal/atl-home-rentals](https://github.com/thearyanmittal/atl-home-rentals)

July 2022 – September 2022

- Scraped over **30K** Atlanta region home rental listings from Georgia MLS site
- Cleaned, feature engineered, visualized correlation, and factor analyzed data using Pandas, Numpy, Matplotlib
- Fit and selected regression models with Scikit-learn to predict prices within **\$550**

### Package Damage Detection and Report

July 2023

- Awarded **1st** Place among Google Cloud Platform projects and **2nd** Place across entire company (**250+** participants)
- Created computer vision model to detect damaged packages in warehouses and a Looker report to visualize trends
- Pitched design to panel of UPS CEO, CTO, and 10 VPs as team captain (team of 5)

### Formulytics | [devpost.com/software/formulytics](https://devpost.com/software/formulytics)

February 2023

- Winner of **\$500** “Best Sports Project” award at Hacklytics 2023 (**400+** participant hackathon)
- Developed Node.js website for live tracking of Formula 1 racers (team of 3)
- Implemented neural-network-based method of estimating in-race win probabilities using only lap times

## TECHNICAL SKILLS

**Languages:** Python, R, Java, SQL, HTML, CSS, L<sup>A</sup>T<sub>E</sub>X

**Technologies:** Pandas, NumPy, TensorFlow, Scikit-learn, XGBoost, Power BI, BigQuery, Gurobi, OpenCV, Matplotlib, Seaborn, Pyplot, Django, Flask, BeautifulSoup, Selenium