# Neel Desai

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## Education

**Georgia Institute Of Technology** — Atlanta, Ga
*Bachelors + Masters in Mathematics + Computer Science* — *Aug. 2022 – May 2025*

## Experience

**Lead Machine Learning Researcher** — July 2024-Present
*Najafi Lab* — *Georgia Instituite Of Technology*

- Led predictive processing research in neuroscience on the computation team, focusing on neural circuit mechanisms using awake, behaving mice.
- Developed computational models and machine learning algorithms to analyze and interpret neural and behavioral data
- Contributed to publications under Professor Najafi Farzaneh and worked 30+ hours during the semester.

**Options 201** — May-September 2024
*Akuna Capital* — *Chicago, IL*

- Developed skills in options theory, including concepts such as the Greeks, implied volatility, and arbitrage, and applied these in simulated trading environments.
- Analyzed real-world scenarios using proprietary trading software to make informed decisions on bid-ask spreads, hedging techniques, and trade execution, enhancing practical knowledge of market-making in a high-frequency trading context.

**Google Software Engineering Intern** — May 2024, 2023 – August 2024, 2023
*Google* — *Mountain View CA*

- Enhanced a large-scale data processing pipeline in C++, improving the retrieval and storage of signals for low-quality search entities.
- Facilitated efficient data analysis by integrating the back-end pipeline with an API, ensuring access is limited to authorized users.

**Data Science Intern** — May 2022 – August 2022
*Lam Research* — *Fremont Ca*

- Led the development of a statistical analysis project to enhance supply chain efficiency.
- Utilized Python for advanced machine learning techniques, increased yield accuracy by 20%, achieved a significant reduction in waste.
- Enhanced production quality through detailed data analysis and reduced manufacturing costs by 15%.
- Utilized technologies like React, JavaScript, and CSS for frontend development.

## Projects

**AgriYield – Crop Yield Prediction for Sustainable Agriculture** | *TensorFlow, Keras, Geopandas, GDAL, OpenCV*

- Developed a machine learning model using satellite imagery and weather data to accurately predict crop yields for major grains (e.g., wheat, corn, rice), achieving a prediction accuracy of 88%, which assists farmers in making data-driven decisions on planting and resource allocation..
- Loaded and preprocessed data with pandas, followed by exploratory data analysis.
- Implemented a convolutional neural network (CNN) combined with environmental data processing using Python, TensorFlow, and GIS libraries to analyze remote sensing data, enabling precise detection of crop health and soil quality across large agricultural areas

## Technical Skills

**Languages**: Java, Python, C/C++, SQL (Postgres), JavaScript, HTML/CSS, R
**Frameworks**: React, Node.js, Flask, JUnit, WordPress, Material-UI, FastAPI
**Developer Tools**: Git, Docker, TravisCI, Google Cloud Platform, VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse
**Libraries**: Pandas, NumPy, Matplotlib, XgBoost, Seaborn, SciKit learn