# Arunav Gupta

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## Background

**University of California, San Diego**

B.S. Data Science w/ minor in Mathematics, Provost Honors
GPA: 3.8 | exp. 2022

**Relevant Coursework:**

Data Structures & Algorithms, Linear Algebra, Multivariable Calculus, Differential Equations, Workshop in Data Science

**Languages:**

*Advanced:* Python, Java
*Proficient:* C++, HTML, JS, SQL, R

**Technologies:**

Tensorflow, Keras, CUDA, Cloud Computing, HPC, GIS, Tableau, PyTorch, Scikit-Learn, Firebase, Mongo.db, Flask, React.js, Feathers.js, Vue.js, Travis CI, Arduino

## Experience

**Supercomputing Team Member,** San Diego Supercomputing Center | La Jolla, CA — *June 2020 - Current*

- Utilizing Comet, San Diego's fastest supercomputer, to run parallel programs
- Competing at SCC 2020 in an international pool of universities
- Tech Used: HPC, Bash Scripting, C, Python

**Software Engineer Intern,** Viasat | Carlsbad, CA — *[Rescinded due to COVID-19]*

- Engaged in Professional Development Workshop (topics covered: neural networks, satellite design, anomaly detection, Agile software development) in lieu of internship

**Data Science Projects Manager,** Data Science Student Society | UC San Diego — *Jan. 2020 - Current*

- Initiated Society's first-ever sports analytics challenge
- Engaged with project members in 8 hands-on data science projects and prepared them for presentation to faculty
- Tech Used: Python, Scikit-learn, Tableau

**Avionics Team Member,** Rocket Propulsion Laboratory | UC San Diego — *Oct. 2019 - Current*

- Heavily involved in the first university initiative to launch a rocket into suborbital space
- Developed UI that displays telemetry data from rocket for flight analysis
- Created reliable end-to-end data pipeline from rocket to ground control with a latency of <200ms
- Tech Used: Python, React.js, Arduino

**Software Engineering Intern,** Vivensity, Inc. | Palo Alto, CA — *Summer 2018*

- Developed & deployed web portal to 500+ students at a local high school to help students manage academic stress
- Reduced incidents of stress-induced attendance issues by 50%
- Tech Used: Vue.js, Feathers.js, Mongo.db, Travis CI

## Honors & Awards

**HDSI Undergraduate Research Scholarship Recipient** — *Jan. 2020*

- Won scholarship for research into the effects of redlining on racial geographic segregation
- Used Markov Chain Monte-Carlo processes to generate districting maps of US cities
- Deployed simulations on Microsoft Azure and Linode HPC instances
- Tech Used: Python, Cloud Computing, GIS

## Projects

**EmotionGAN** — *Summer 2020*

- Training a text-to-speech conditional GAN to generate voice samples with emotion-tagged data
- Tech Used: Python, Tensorflow, Keras, PyTorch, CUDA, Flask, Heroku

**Quantifying the Effects of the 2008 Recession** — *Sept. 2019 - Current*

- Analyzed Zillow Economics Data to quantify 2008 Recession impact on various locales
- Published paper showcasing findings: arxiv:1912.11341
- Deploying methods used in research as PyPi package
- Tech Used: Python, Scikit-learn, Travis CI

**PlaneClassifier** — *Aug. 2019*

- Scraped, preprocessed, and trained an image neural net using CUDA libraries to identify aircraft manufacturers
- Achieved 96% accuracy, beating conventional image recognition models
- Tech Used: Python, Tensorflow, Keras, CUDA