Frank (Gus) Petito

Math and Computer Science Student

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Education

Cornell University / Ithaca, NY **August 2019 – May 2023**

- Expected Bachelor of Arts in **Computer Science** and **Mathematics**.
- **GPA:** 4.15/4.3. **Departmental GPA:** 4.18/4.3. Dean's List every semester offered.
- **Research assistant** for the Fall 2021 semester and onwards researching deep learning and its performance within self-driving cars with LiDAR and stereo camera data.

Relevant Experience

Database Programming Intern - Merck & Co. / Rahway, NJ **June 2021 – Present**

- Built a machine learning algorithm in Python to classify unlabeled database metadata by leveraging a combination of classical machine learning algorithms and active learning to manually label the most 'uncertain' data points.
- Generated data that could be imported into Microsoft Power BI for easy data analysis.
- Received high-level training in multiple database development tools such as InForm and Oracle's Central Designer.

Undergraduate Computer Science TA - Cornell University / Ithaca, NY **Feb 2021 – May 2021**

- Taught 250 students the basics of computer architecture through simulated circuit building and C programming in CS 3410 (Computer System Organization and Programming).
- Led weekly lab sections of ~15 students, held weekly office hours, and graded student projects and exams.
- Hired to TA CS 4780 (Introduction to Machine Learning) during the Fall 2021 semester.

Bootcamp Teaching Assistant Intern - Code Platoon / Chicago, IL **May 2020 – Aug 2020**

- Taught full-stack web development to military veterans and veteran spouses with varying levels of programming experience, emphasizing clean, readable, and maintainable code for the workforce.
- Reorganized, cleaned, and rewrote the class curriculum for easier use.

Projects

Machine Learning COVID-19 Project (Python):

- Wrote both a classification and a regression program in a group of three students using COVID-19 case data from multiple countries to predict how cases would change over time using Scikit-learn and Keras.
- Finished the regression portion in the top 25% of the class according to the Kaggle mean squared error.

Real-time Ray Tracer (Java):

- Built a small 3D environment the player could freely move around in and explore.
- Programmed the rendering engine in vanilla Java using ray tracing techniques, leveraging ideas from linear algebra such as scene-to-camera transformation matrices.

Skills

Programming Languages (Experienced): Python (most experienced), Java, JavaScript, LaTeX

Programming Languages (Used Briefly): C, HTML, CSS

Tools/Frameworks: Object-Oriented Programming, Git, Scikit-learn, Keras, Pandas, NumPy, Django, SQL, Linux

Relevant Classes

Computer Science

Object-oriented Programming and Data Structures
Discrete Structures
Computer System Organization and Programming
Operating Systems
Introduction to Computer Graphics & Practicum (Fall 2021)
Introduction to Machine Learning
Introduction to Analysis of Algorithms (Fall 2021)

Math

Linear Algebra
Multivariable Calculus
Introduction to Analysis
Manifolds and Differential Forms
Basic Probability