Frank (Gus) Petito

Math and Computer Science Student

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Education

Cornell University / Ithaca, NY   **Expected May 2023**

- Bachelor of Arts in **Computer Science** and **Mathematics**.
- **GPA:** 4.148/4.3. **Departmental GPA:** 4.178/4.3. Dean's List every semester offered.

Relevant Experience

Research Assistant – Cornell University / Ithaca, NY   **August 2021 – Present**

- Researching deep learning and computer vision for self-driving cars with LiDAR and stereo camera data.

Undergraduate Computer Science TA - Cornell University / Ithaca, NY   **February 2021 – Present**

- **CS 3410 (Computer System Organization and Programming) - February 2021 – May 2021**
- **CS 4780 (Introduction to Machine Learning) - August 2021 – Present**
- Taught 250 students the basics of computer architecture through simulated circuit building and C programming.
- Led weekly lab sections of ~15 students, held weekly office hours, and graded student projects and exams.

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

- 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.
- Created metrics from my classifications to reduce the number of database change requests and improve efficiency.
- Received high-level training in multiple database development tools such as InForm and Oracle's Central Designer.

Bootcamp Teaching Assistant Intern - Code Platoon / Chicago, IL   **May 2020 – August 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 Course 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 Personal Project (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 transformations.

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
- Computational Algebra (Fall 2021)