

## **Tate Rowney**

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### **EDUCATION**

#### **Carnegie Mellon University (2028)**

- Intended Major: Bachelor of Science in Mathematics
- Intended Additional Major in Artificial Intelligence

#### **The Bay School of San Francisco (2024)**

- Finalist, National Merit Scholarship

### **EXPERIENCE**

#### **Computer Vision Researcher (2023-2024)**

- Invented and implemented a novel machine learning-based approach to recognize handwritten mathematical expressions using TensorFlow
- collaborated with a Data Science researcher and professor to publish results

#### **IT Support Assistant (Summers, 2021-2023)**

- Diagnosed and repaired malfunctioning office technology
- Simplified various tasks through scripting and automation

### **PROJECTS**

#### **Language Model** (in progress)

- Currently developing a Transformer-based NLP model using PyTorch to generate realistic text
- Creating reusable code to scrape and process large quantities of complex data
- Designing a scalable model based on available computing resources

#### **GUI Framework for Python**

- Devised a framework to turn Python scripts into compact HTML-based desktop apps
- Allows for graphical control and visualization of Python programs, while keeping boilerplate code to a minimum

#### **Fractal Renderer**

- Created a program to render chaotic mathematical functions at high precision in an aesthetically pleasing way

### **LEADERSHIP**

#### **Captain, Varsity Track Team (2024)**

- The Bay School of San Francisco

#### **Co-Leader, Bay School Math Club (2022-2024)**

- The Bay School of San Francisco

### **ACTIVITIES**

- Member, CMU Math Club
- Member, CMU Data Science Club
- Member, Carnegie AI Safety Initiative

### **SKILLS**

- **Programming languages:** Python, Javascript, HTML/CSS, Arduino; some proficiency in Java, Matlab
- **Frameworks and Libraries:** TensorFlow, PyTorch, Numpy, Matplotlib, Flask, SocketIO, Bash
- **Other skills:** Google Suite (including Google scripting language); some fluency in Mandarin