Joshua Hizgiaev

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EDUCATION Stevens Institute of Technology Hoboken, NJ

Bachelor of Science in Computer Science Expected May 2026
Honors: Edwin A. Stevens Scholarship, Dean's List Fall 2022 - Spring 2023, Accelerated Masters
GPA: 3.9/4.0
Relevant Coursework: Intro to Computer Science, Data-Structures, Discrete Mathematics, Physics: Mechanics, Physics: Electricity, Multivariable Calculus, Vectors and Matrices

SKILLS
Programming: C/C++, HTML/CSS (Beginner-Intermediate), JavaScript (Beginner), Java, Python, Latex, Scheme/Racket
Data Science Tools: Pandas, SciPy, NumPy, Jupyter Notebook, Matplotlib, Plotly, Plotly Dash, Yahoo Finance, Google Finance API
Linux: Ubuntu, Fedora Workstation, UNIX
DevOps: Github, Git
IT: Microsoft Office Suite, macOS, Google Suite, Microsoft Windows, Git
Languages: English, Russian

PROFESSIONAL EXPERIENCES
Stevens Institute of Artificial Intelligence
Undergraduate Research Intern Jun 2023 - Present
- Perform deep data analysis and cleaning on large datasets of 1-5 terabytes in size of U.S. economic and employment data using Python scientific libraries: **Pandas**, SciPy, and **NumPy**.
- Create AI-powered tools utilizing **OpenAI** and **GPT-4** for web applications with Python, **Plotly Dash**, and Jupyter.
- Create software in **Python** for researchers to use to aid in analyzing data as well as having easier access to GPT technology.
- Perform quantitative analysis on the performance of AI models such as GPT, Diffusion, and Midjourney V4.

Stevens Institute of Technology
Undergraduate Research Assistant Apr 2023 - Present
- Perform static site generation performance testing using **Sphinx** and **Hugo** static site generation.
- Create custom RestructuredText directives using **Javascript** and server scripts with **Python** to statically host Sphinx apps.
- Create a full textbook static site using **Sphinx** documentation generation as proof-of-concept **HTML/CSS**
- Implemented a search tool that uses regular expressions to find relevant documents for ease of use to users.

PROGRAMMING PROJECTS
GPT4All (gpt4all.theautomata.net)
- Python based **Plotly Dash** web app using **Flask** to host a **GPT-4 chat app**
- Allows users with an **OpenAI API** key to have near unlimited access to optimized GPT-4 query for quick responses.
- Allows users to select which GPT model they can use from GPT-3 and its popular **GPT-3.5-Turbo** version to GPT-4
- About **3 times faster GPT-4 response time** compared with local hosting using Jupyter or Visual Studio Code

Stocko Finance Bot
- Discord bot built in **Python** using **Discord.py** libraries, **Plotly, Matplotlib, Pandas, and Yahoo Finance**
- Graphing and plotting of **stock performance** from 1970 to present, **historical volatility,** and stock **MACD.**
- **Real-time stock ticker** on stock data such as Open, Close, Volume, High, and Low
- Graphing and plotting of any appropriate ratio statistic of a stock including **Sharpe-Ratio, M2 Ratio, and Sorting Ratio**

Sorting Algorithm Visualizer
- Full sorting algorithm visualizer built in **Java** using **Java Swing**, and **Java AWT** graphics library.
- Provides visualization of sorting algorithms for numerical data of any size in any order provided.
- The following sorting algorithms are supported: Brick-Sort, Bubble Sort, Gnome-Sort, Insertion Sort, Selection Sort, Shell Sort

A-Star and Dijkstra's Pathfinding Algorithm Visualizer
- Full pathfinding visualization built with **Java** with **Java Swing** and **Java AWT** graphics library.
- Accurately visualizes both the A-Star and Dijkstra algorithm in a 2D resizable grid that features a maze builder ● Capable of plugging in other pathfinding algorithms such as Breadth First Search (BFS)

2D Cellular Automata Visualizer
- Build in **C** and **C++** using the C++ based graphics library **SFML**
- Accurately simulates **Conway's Game of Life** but rules can be modified to fit other automata such as **Rule 30, Rule 11,** and **Brian's Brain**

ACTIVITIES
Stevens Computer Science Club, Robotics Club, Stevens Linux User Group, Software Engineering Club