Jonathan Roberts

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Education

College of Staten Island — Staten Island, NY
Masters of Science in Computer Science — *August 2025 – Present*
- Focus: Artificial Intelligence, Network and Cyber Security

State University of New York at New Paltz — New Paltz, NY
Bachelors of Science in Computer Engineering — *August 2023*
- Relevant Coursework: Software Engineering, Computer Science III, Data Structures, Computer Architecture

Technical Skills

Languages: Java, SQL, JavaScript, Python, C/C++, XML, Verilog, Assembly, HTML/CSS
Other Tools: PyTorch, NumPy, tKinter, Pandas, Spring, Javalin, Mockito, JDBC, Maven
Developer Tools: GitHub, Visual Studio, MySQL, Anaconda, Eclipse, Jupyter Notebook, Blink Arduino

Work Experience

Stellantis | *Title: Validation Engineer* — September 2023 – July 2024
- Validated and troubleshooted the functionality of electronic components within new models of electric vehicles by reading and interpreting the signals across the communication networks.
- Responding to errors documented by other engineers and conducting a root-cause analysis to determine the reason for system's failures.
- Troubleshooted electrical circuits, components and systems and created solutions for other engineers.
- Wrote in-depth reports detailing the errors, the causes and possible solutions for another team of engineers to fix.

Skinflints Bar and Restaurant | *Title: Server/Busser* — June 2021 – December 2022
- Served customers and bussed tables while helping bar and kitchen staff with their needs.

Projects

Artificial Intelligence Visual Training | GitHub Link | *Python, PyTorch, AI* — November 2025
- Trained an AI using a CNN and an LSTM model on a dataset of six thousand images of 28x28 pixel hand-written digits and tested them on a thousand others.
- Utilized grid-search to tune the hyper-parameters and early-stopping to prevent overfitting.
- It was found that the LSTM model performed marginally better than the CNN model despite not being designed for image classification.
- This can be explained by the small and grayscale nature of the images which benefited the LSTM model by allowing it to detect stronger patterns while the CNN model struggled due to the low amount of convolutional layers.

Minesweeper Solver Application | *Python, NumPy, tKinter* — October 2025
- Created an application in Python to detect the state of a minesweeper game and solve for all possible squares.
- Used a brute-force approach to detect all unknown squares within the grid that are adjacent to all known squares and calculate whether it is a bomb, clear square or unknown. Then update the board for new information and repeat the process until the entire board is completed.
- Used the tKinter library to create a visual and interactive board to play the game.

Backend of Social Media Messenger Application | *Java, SQL, Javalin, Spring, Mockito* — April 2025
- Designed the back-end for a social media messaging platform that can handle user sign-ups, logins as well as the creation and handling of messages while using SPRING to inject dependencies and follow a RESTful architecture.
- Created BCNF compliant databases to handle a variety of information and queried them using the SPRING framework's built in queries as well as custom ones.

Training

Software Engineering Training: Completed training course for back-end application development using Java and SQL and using frameworks such as Javalin and Spring. Trained by Revature.