

# Tyler Amalfa

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## Education

Rutgers University, New Brunswick, NJ

Senior, Expected May 2025

*Bachelor of Engineering in Electrical Engineering*

GPA: 3.74

*Bachelor of Science in Computer Science*

*Minor in Creative Writing*

- Relevant Coursework: Principles of Electrical Engineering I & II, Digital Signal Processing, Digital Electronics, Computer Architecture, Data Structures, Design & Analysis of Computer Algorithms, Network Centric Programming, Introduction to Artificial Intelligence, Robotics & Computer Vision, Introduction to Computational Robotics, Deep Learning

## Work Experience

Mutual of America

*Information Security Intern*

*June 2023–August 2023*

- Built numerous programs with Java to aid and automate important Information Security tasks
- Compiled an application with Java that was deployed to a company server for analysis of crucial data from various Microsoft Excel spreadsheets
- Helped company's upper management develop a disaster recovery plan for a newly overhauled cloud-based computing system and various other servers

Rutgers University

*Student Tutor*

*January 2023–Present*

- Helped peers and demonstrated knowledge with material in the fields of Computer Science, Electrical Engineering, and Mathematics
- Assisted during midterm and final exam periods, hosting extra hours for students to get important information

Freehold Township Recreation

*Summer Camp Counselor*

*June 2017–August 2022*

- Facilitated games and activities for the age group I had for the summer, ranging from grades K-6
- Trained in CPR, procedure for a missing child, and several other skills needed for an emergency in the workplace
- Handled a wide variety of camper behavioral issues, including manners that required administrator involvement and discussions with children's parents

Tilly's

*Seasonal Sales Associate*

*November 2021–January 2022*

- Tended to customers' needs for all products sold by Tilly's by familiarizing myself with the store, the company, and their respective policies
- Kept the store clean and orderly before opening and after closing time during the holiday season and on Black Friday

## Projects

Chess Artificial Intelligence

- Using Java, developed a version of Chess by programming all moves and pieces, and then programmed a "bot" capable of playing the game by choosing optimal moves, currently capable of beating novice to intermediate players
- Began in March 2024, ongoing
- Skills: Java, Artificial Intelligence, Data Structures, Object Oriented Programming, Optimization

Snake Bot

- Using Java, built the classic game Snake, as well as wrote a "bot" capable of playing as a snake and navigating the board to find "food"
- Began in March 2024, ongoing
- Skills: Java, Artificial Intelligence, JavaFX

Self-Balancing Skateboard Robot

- Worked toward building a robot which could balance a skateboard on its rear set of wheels based on measurements taken with a gyroscope
- Completed from September 2020–January 2021
- Skills: Woodworking, circuit design, Arduino, gyroscope data

Wordle Bot

- Used Java to develop several versions of a program capable of solving the puzzle Wordle, culminating at a program with high accuracy in few guesses
- Completed from March 2022–April 2022
- Skills: Java, Selenium Web Automation, HTML, algorithms, data structures

Sudoku Solver

- Completed a program in Java which could scan and solve a large amount of sudoku puzzles with a high degree of accuracy, using my own algorithm
- Completed from May 2020–June 2020
- Skills: Java, JavaFX, OpenCV, computer vision, algorithms, data structures

Modified Laser Tag

- Used skills in circuitry and construction to design and build a modified version laser tag which incorporated transcutaneous electrical nerve stimulation for older users.
- Completed in January 2020
- Skills: Circuit design

T & Z's Pizza

- Developed a pizza ordering app by first writing custom objects using inheritance, then developing a UI using JavaFX, and finally transferring it all to an Android application
- Completed December 2023
- Skills: Java, JavaFX, Mobile Development for Android

## Skills & Interests

- Skills: Proficient in Java, MATLAB, C, C++, and Python, Git, artificial intelligence, math up and through Differential Equations and Linear Algebra, Microsoft Office(Word, Excel, PowerPoint, Outlook), electronics including circuitry, diagrams, simulations, soldering, and analysis
- Interests: Skateboarding, entertainment, films and filmmaking, creative writing, fabrication, programming, automation, artificial intelligence