

# Michael Chunko

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## Education

**Bachelors of Science in Computer Science, Minor in Mathematics**

Aug 2018 – May 2021

Stevens Institute of Technology, *Hoboken, NJ*

**GPA** – 3.96

- **TA:** Automata and Computation, Algorithmic Complexity
- **Selected Completed Courses:** Algorithms, Data Structures, Web Programming, Compiler Design, Systems Programming, Numerical Analysis, Statistics, Linear Algebra
- **Selected In-Progress Courses:** Database Management, Operating Systems, Artificial Intelligence, Computer Vision

## Skills

**Programming:** C, C++, Python, Java, OCaml, Scheme, CLISP

**Web:** HTML5, CSS

**Misc. Tech:** UNIX, Git, Linux, Windows, MATLAB, GNU Octave,  $\text{\LaTeX}$ , VSCode, MS Excel

## Experience

**Teaching Assistant, Stevens Institute of Technology** *Hoboken, NJ*

Dec 2019 – Current

- Assistant for Automata and Computation (undergraduate level), Algorithmic Complexity (graduate level)
- Created new assignments for students to nurture an understanding of the material
- Assisted students in gaining an understanding for the topics taught in class both in one-on-one sessions and in groups of up to ten students

**$\text{\LaTeX}$  Typesetter, Stevens Institute of Technology** *Hoboken, NJ*

Oct 2018 – Current

- Created documents written in  $\text{\LaTeX}$  and write .TeX code
- Provided IT assistance

## Projects

**OAT Compiler**, Stevens Institute of Technology *Hoboken, NJ*

Jan 2020 – May 2020

- Designed a fully fledged compiler, parser, and lexer for OAT (a C-like language)
- Capable of lexing and parsing raw OAT code, compiling from OAT to LLVM, compiling from LLVM to X86, and simulating X86
- Optimized the output between each step, reducing code size and improving efficiency

**Snake DQN**, Personal *Howell, NJ*

May 2020 – Jun 2020

- Used Keras to create a Deep Q-Network to learn and play the classic game of Snake
- Programmed an implementation of Snake in pygame

**Language Detection**, Personal *Howell, NJ*

Mar 2018 – Jun 2018

- Designed and programmed a neural network capable of identifying the language of a given word with high accuracy
- Developed working knowledge of the TensorFlow library for creating neural networks

**Rogue**, Personal *Howell, NJ*

Mar 2019 – Aug 2019

- Created a procedurally-generated game rendered with text-based graphics
- Turn-based combat through procedurally-generated levels including multiple enemy types, random item drops, upgrades, and an experience system

**Interactive Website**, Stevens Institute of Technology *Hoboken, NJ*

Oct 2018 – Dec 2018

- Worked with a team to create an interactive website built with HTML5, CSS, and JavaScript
- Managed the team to divide the tasks and finish everything on time using regular scrums

**RayTrace**, Personal *Howell, NJ*

Jul 2020 – Aug 2020

- Designed and programmed a software-based implementation of the ray tracing rendering technique
- Capable of accurately simulating perspective, reflections, refractions, shadows, and other optical effects