Willem Mirkovich

Website: wjmirkovich.com

Email: willemmirkovich@gmail.com
Github: https://github.com/willemmirkovich

Education

- **University of Colorado Boulder, Engineering and Applied Science** — Boulder, CO
  Bachelor of Science - Computer Science; GPA: 3.9 — *2018 - May 2020*
  Courses: *Algorithms, Artificial Intelligence, Machine Learning, Data Science, Big Data, Operating Systems*
- **University of Washington, Pre-Engineering** — Boulder, CO
  Pre-Engineering - Computer Science; GPA: 3.7 — *2016 - June 2018*
  Courses: *Data Structures, Databases, Applied Linear Algebra, Differential Equations*

Skills Summary

- **Languages**: Python, TypeScript, C#, BASH, LaTeX, SQL, Java
- **Frameworks/Packages**: Scikit, numpy, TensorFlow, Webpack, Flask, NodeJS, Express, Jest, JSON Web Tokens
- **Tools**: Docker, GIT, JupyterNotebook, JupyterLab, MongoDB

Experience

- **Full Stack Software Engineer I/II** — Full-time
  Anark Corporation, Boulder CO — *June 2020 - Current*
  - **Enabled Faster/Resilient Development**: Decreased Webpack transpilation by 75%, incorporated dynamic imports/hot-module replacement, brought code test coverage from 20% to 60%, covered TypeScript code with eslint
  - **Built API**: Built API for front-end Visualization tools accessing/viewing 3d data and models
  - **Docker Microservices**: Built Microservices within Docker containers
  - **Updated Legacy Code**: Modernized TypeScript code base to be built within NPM project instead of in Visual Studio
- **Professional Research Assistant** — Part-time
  University of Colorado Boulder, Aerospace Engineering — *July 2020 - Current*
  - **Neural Network Development**: Developed Spatiotemporal prediction models using Neural Networks
  - **AMGeO Python API**: Designed and developed API for generating and loading assimilative maps of geospatial data
  - **Microservice Architecture**: Created new microservice for data retrieval from AMPERE, created logging tools for quick error debugging and anonymous user data retrieval
- **Full Stack Software Engieer Intern** — Part-time
  Anark Corporation, Boulder CO — *November 2018 - June 2020*
  - **Test-Driven Development**: Learned Test-Driven Development skills that I have been able to hone
  - **Introduced Native Typescript Testing**: Created first set of native tests to Typescript code base
- **Undergraduate Research Assistant/Developer** — Part-time
  University of Colorado Boulder, Aerospace Engineering — *August 2019 - May 2020*
  - **Machine Learning Application**: Began work on spatiotemporal prediction using assimilative maps from AMGeO
  - **Enabled Security on AMGeO website**: Used JSON Web Tokens to authenticate users on main website
- **Teaching Assistant, Discrete Structures Math Course** — Part-time
  University of Colorado Boulder, Engineering and Applied Science — *Jan 2019 - Dec 2019*
  - **Led Work Group**: Developed worksheets for students to complete outside of class, go over topics in greater detail
  - **Held Office Hours**: Helped students with classwork, prepared students for exams

Presentations

- **CEDAR Workshop 2021**: Led workshop going over new AMGeO API, hosted on AWS, using Jupyter Notebooks. https://github.com/AMGeO-Collaboration/CEDAR-Workshop-2021
- **AGU 2020**: Presented poster showcasing work complete so far in spatiotemporal prediction with AMGeO

Projects

- **AMGeO**: AMGeO website: https://amgeo.colorado.edu/. AMGeO is a data science software project funded by the NSF EarthCube program aiming to open up the vast amount of geospace data to a broader audience, while also giving users an access to data analysis tools that help gain meaningful insights. I am apart of the AMGeO team, helping with the development and release of open source software
- **Senior Thesis**: Completed a Senior Thesis Capstone. Research focused on work in pruning the search space of repeated iterations of similar problems to reduce computation time. Applications in Linear Programming, String Search and Shortest-Path Algorithms.

Honors and Awards

- Graduated **Magnum Cum Laude** from University of Colorado Boulder - May 2020
- **Dean's List** University of Colorado Boulder - 2018 to 2020
- **Engineering Transfer Scholarship** while transferring to CU Boulder - 2018
- **Dean's List** attending University of Washington - 2016 to 2018