**Michael Wolf-Sonkin**

michaelwolfsonkin@gmail.com | (646) 618-2611 | [github.com/mikee478](http://github.com/mikee478) | [michael.wolfsonkin.com](http://michael.wolfsonkin.com/)

**EDUCATION**

**Columbia University** August 2021 – December 2022

Master of Science, **Computer Science** Cumulative GPA: 3.93/4.0

**Stony Brook University** August 2018 – May 2021

Bachelor of Science, **Computer Science** Cumulative GPA: 3.92/4.0

Bachelor of Science, **Applied Mathematics**

**SKILLS**

Technical: **C, C++, Python, OpenGL, GLSL, LabWindows/CVI, Git**

Courses: **Computer Graphics, Physically Based Animation, Computational Geometry, Competitive Programming**

**WORK EXPERIENCE**

**Air Force Research Laboratory** | Dayton, OH April 2023 – Present

*Software Development Contractor*

* Developed traffic simulation to train machine learning model to identify and monitor vehicles.
* Utilized procedural road generation to create realistic and diverse road networks.
* Designed vehicles capable of driving along roads and navigating through intersections while avoiding collisions.

**J.G. Smith Associates Inc.** | Setauket, NY Summer 2021

*Software Development Contractor*

* Developed LabWindows/CVI application to verify functionality of a test tool for DC-DC converters.
* Enabled engineers to simulate various tests in order to identify incorrect results.

**Applied Research Associates Inc.** | Raleigh, NC Summer 2020

*Software Development Intern*

* Refined the 3D model export pipeline to improve the viewing of tunnel facilities on a 3D representation of the earth.
* Split tunnel models into individual parts, allowing users to view specific sections of the tunnel system.

**BitWize Corp.** | Melville, NY June 2019 – February 2020

*Software Development Contractor*

* Created LabWindows/CVI program to verify behavior of fuzzy signals of deicing controller in extreme temperatures.
* Improved accuracy and efficiency of testing procedures by automating manual processes.

**PERSONAL PROJECTS**

[**Virtual Rubik’s Cube Solver**](https://github.com/mikee478/cube-solver) – *Python*

* Utilized OpenGL for 3D graphics.
* Implemented Rubik’s Cube solving algorithms, specifically CFOP.

[**Drift Simulation**](https://github.com/mikee478/drift-simulation) – *C++*

* Implemented 3D Perlin noise in GLSL to randomly generate a fluid-like landscape that evolves over time.

**Ray Tracer** – *C++*

* Capable of producing realistic images by tracing the path of light rays as they interact with objects in a scene.
* Implemented Phong shading, shadows, antialiasing, reflection, refraction, mesh rendering, texture mapping, and BVH.

[**Flocking Simulation**](https://github.com/mikee478/boids-simulation) – *C++*

* Modeled the behavior of individual animals in a flock using three simple rules: cohesion, separation, and alignment.
* By following these rules, the simulation can exhibit complex and realistic flocking behavior.

**EXTRACURRICULAR ACTIVITIES**

**Competitive Programming** – *Columbia University, Stony Brook University* September 2019 – December 2022

* Collaborated with team in weekly practice contests which leverage algorithmic problem solving.
* ICPC Greater NY Regional, 2021 – 3rd Place.

**ADDITIONAL**

**Awards** – Columbia University and Stony Brook University Dean’s List – All Semesters

**Interests** – Rock Climbing • Rubik’s Cubes • Cycling