Michael Wolf-Sonkin

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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++, LabWindows/CVI, Python, OpenGL, GLSL, Git**
Courses: **Computer Graphics, Physically Based Animation, Computational Geometry, Competitive Programming**

WORK EXPERIENCE

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

- Developed LabWindows/CVI application to monitor heater and actuator status for onboard deicing systems.
- Implemented automatic alerts and notifications to proactively identify and address issues in the system.

Cox & Company Inc. | Plainview, NY Summer 2017, 2018
Software Development Intern

- 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 – *Python*

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

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 – *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