Saajan Maslanka

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Personal Statement

I am a sophomore at Arizona State University, interested in research and internship opportunities in the fields of AI, theoretical CS, and graph algorithms. Hopes to pursue a Ph.D in CS with an emphasis in applications of machine learning in simulations.

Education

Arizona State University, Tempe, Arizona – National Merit Recognition Scholar 2021 – Present

B.S. in Mathematics and *B.S.* in Computer Science (CS), expected December 2023

Chandler-Gilbert Community College, Gilbert, Arizona – High Distinction 2014 – 2021

A.A. in Mathematics and *A.S.* in Computer Science (CS)

Skills

- Programming: C++, Rust (Tokio & Crossbeam), C, C#, TypeScript (React), Python, Java
- Computer Science: Algorithms, Data Structures, Automata Theory
- Mathematics: Proofs, Group Theory, Real Analysis, Linear Algebra
- Public Speaking: Host seminar talks to audiences of 200+

Experience

Amazon – Project Kuiper | SDE Intern Summer 2022

Designed and developed testing and simulation software to validate LEO satellite broadband traffic algorithms

- Implemented multithreading with Rust to allow real-time TCP/UDP traffic at 5+ GB/s in the simulator
- Developed a frontend framework in Python for designing automated and scriptable Iperf tests on the simulator
- Attended daily standups and practiced Agile principles to ensure project deliverables met

ASU – Engineering Tutoring Centers | Lead CS Tutor & Board Member Fall 2021 – Current

Tutored hundreds of college students in introductory computer science, analysis of algorithms, data structures, etc.

- Compose and present 2 content trainings per semester for other tutors
- Assist in the growth of the program via biweekly meetings with other board members

Projects

Personal - Large Scale 2D Terrain Generation Summer 2021 – Current

Currently developing a robust framework for hex tile based terrain generation.

- Researched property preserving tilings of hexagons for hierarchical spatial indexing
- Implementing a Rust server to handle multi-threaded simulation efforts.

Personal - LL1 Lexer and Parser Spring 2022

Transform CFG grammars into LL1 grammars and generate C++ code parsing and lexing of these languages

- Generate NFAs to turn a raw string into tokens
- Parse token stream using recursive descent parsing

High School - Senior Design Project Fall 2020 – Spring 2021

Research, design, and prototype a voice activated powdered ingredient dispenser with a research partner

- Fabricated a control loop consisting of a Raspberry Pi, servos, and various weight sensors
- Allowed for scalability via Google Firebase and Google Assistant APIs
- Use Node.JS and React to handle backend and frontend respectively