

SAAJAN MASLANKA

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PERSONAL STATEMENT

I am a senior at Arizona State University, interested in full time software engineering and research opportunities in the fields of systems design, theoretical CS, and procedural content generation.

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 (Sync & Async), C, C#, TypeScript (React), Python, Java, Intel DPDK
- Computer Science: Algorithms, Data Structures, Automata Theory, Complexity Theory
- Mathematics: Proofs, Group Theory, Linear Algebra
- Public Speaking: Host seminar talks to audiences of 200+

EXPERIENCE

Amazon – Project Kuiper | SDE Intern Summer 2022 & Summer 2023

(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

(2023) Designed and developed modern lightweight packet classification software to ensure customer broadband experience.

- Designed a highly modular decision tree based packet classifier with support for on-the-fly configuration
- Utilized the Intel DPDK platform to provide fast access to packets on the NIC
- Achieved latency of tens of microseconds across the packet classifier

ASU – Engineering Tutoring Centers | Lead CS Tutor & Board Member Fall 2021 – Spring 2023

Tutored hundreds of college students in introductory to advanced computer science topics including but not limited to: analysis of algorithms, data structures, and finite automata theory.

- 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

PERSONAL PROJECTS

Large Scale 2D Terrain Generation Summer 2022 – Current

Currently developing a robust framework for tile based terrain generation.

- Researched property preserving tilings of hexagons for hierarchical spatial indexing
- Developed a demo platform for hexagonal tilings
- Implementing a Rust server to handle multi-threaded simulation efforts
- Researched the concept of Spatially Approximate Entity Component Systems for simulation
- Researched methods of procedural terrain generation including stack based pipeline methods with variable tile resolution.

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
- Output standardized C++ code based on input grammar