# Nikola Istvanic

istvanic.nikola@gmail.com | (412) 736-0806

## EDUCATION

### GEORGIA TECH

MS in Computer Science
Computing Systems
May 2023
Cumulative GPA: 4.0
Highest Honors

BS in Computer Science
December 2018
Cumulative GPA: 3.64
Highest Honors

## LINKS

github.com/NikolaIstvanic
linkedin.com/in/nikola-istvanic/

## SKILLS

### PROGRAMMING

C
C++
Rust
Python
Java
git
Linux
Arduino
Raspberry Pi

### SPOKEN LANGUAGES

English - fluent
Serbo-Croatian - fluent
Russian - advanced

## COURSEWORK

### GRADUATE

High Performance Computer Architecture
Computer Networks
AI for Robotics
Machine Learning
Software Design
LLVM

### UNDERGRADUATE

Advanced Operating Systems
Compilers
Processor Design

## EXPERIENCE

### NVIDIA | Senior Software Engineer

January 2025 - Present | Santa Clara, CA

- Designed, developed C reference count framework for Windows HID sensor lifetimes
- Implemented caching in DisplayPort driver to reduce IPC latency from repeat calls
- Reduced invocations by ~2 million, improved display enumeration time by 2-6x
- Extended display driver version authentication through embedded cookie structure
- Updated DisplayPort library to support GSYNC VRR feature behind MST displays

### AMAZON LAB126 | Embedded Software Engineer II

May 2022 - January 2025 | Austin, TX

- Own device resource management component, handling RAM quotas, thread scheduling
- Designed, implemented API to query device storage at partition and application levels
- Onboarded, trained team's new hires and interns. Maintained an active mentorship role
- Developed ReactNative APIs for several core operating system components
- Created update mechanism for application time zone, language, localization, and theming

### AMAZON LAB126 | Embedded Software Engineer I

October 2020 - May 2022 | Austin, TX

- Developed C, C++ APIs for access-controlled key-value store for operating system
- Developed application internationalization and asset resolution API
- Optimized C++ weight-based file ranking algorithm, improving performance by 6x
- Implemented pub/sub C API in firmware of embedded Linux and RTOS devices
- Reduced firmware framework publish API call execution time by 93.6%

### LAWRENCE LIVERMORE NATIONAL LABORATORY | Software Engineer

August 2019 - May 2020 | Livermore, CA

- Developed data capture code for embedded C++ space flight simulation software
- Created interface with camera devices, allowing for continuous streaming of image data
- Implemented multithreaded producer-consumer for capturing and processing of data
- Improved modularity and cache usage of linear algebra library, reducing runtime by 50%

### CISCO SYSTEMS | Software Engineer Intern

May - August 2018 | San Jose, CA

- Added concurrency handling for Linux kernel device driver in distributed storage system
- Balanced interrupt spread to increase processor affinity and improve cache utilization
- Improved driver performance by 225% over production code

## RESEARCH

### GT SPACE SYSTEMS DESIGN LABORATORY | Research Assistant

August 2017 – May 2018 | Atlanta, GA

- Developed software for fully autonomous satellite communications ground station
- Created Python script to control antenna movement to track satellite movement
- Designed scheduling algorithm to maximize number of satellites communicated with

### GT CENTER FOR RELATIVISTIC ASTROPHYSICS | Research Assistant

January – May 2017 | Atlanta, GA

- Created firmware for embedded device on temperature-controlled telescope
- Developed C++ API to convert raw sensor resistance readings to temperature values
- Implemented Python serial console to display temperature output from sensors