

# ANDY RITTENHOUSE

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## EDUCATION

UNIVERSITY OF COLORADO BOULDER, Boulder, CO

Expected 2023

**BS, Computer Science: GPA 3.6, Major GPA 3.8**

Languages and Technologies: C, C++, Python, JavaScript, Node, Scala, Perl, MATLAB, x86, Relational and NoSQL DBs, Docker, Github.

Proficient with Unix-like terminal commands - comfortable navigating and controlling a Unix-like system without a GUI.

Undergraduate Coursework: Data Structures, Algorithms, Operating Systems, Network Systems, Database Systems, Software Development, Cybersecurity, Linux Administration, Thermodynamics, Aerodynamics, Statics, Computational Methods in Engineering.

Graduate Level Coursework: Theory of Computation, Computational Complexity.

## PROFESSIONAL EXPERIENCE

TRIMBLE INC, Westminster, CO

2022 - Present

**Senior Capstone Team Lead**

- Researches and develops a multi-radar odometry algorithm in Python for autonomous construction machinery, using least-squares linear regression and RANSAC outlier rejection.
- Leads weekly team meetings, records meeting minutes, publishes weekly project status updates, maintains a central project planning document, and assigns tasks to project team members.

SARA INC., Colorado Springs, CO

Summer 2022

**Software Engineering Intern**

- Developed a proof-of-concept MS-SQL Server database for large-scale EMP test data and wrote a well-documented Python program to migrate existing data from text files to the database.
- Presented the Python program and SQL Server DB to a team of engineers, reviewing program functionality and enabling the team to implement the database at scale.
- Implemented critical bug-fixes in C++ for the Shielding Effectiveness Automated Monitoring System (SEAMS).
- Re-wrote an out-of-date PERL program in Python, greatly improving modularity, readability, and maintainability.

UNIVERSITY OF COLORADO, Boulder, CO

2021 - 2022

**Course Assistant, Algorithms, Data Structures**

- Hosted five hours of office hours each week, assisting students with course material ranging from inductive proof techniques, to graph theory and traversal algorithms, to problems in abstract computational complexity such as P vs NP.
- Developed model solutions to weekly problem sets. Respond to asynchronous classroom forum, helping students with all course material.
- Hosted four hours of office hours each week, assisting students with all course material including dynamic memory management, stacks, heaps, binary-search trees, self-balancing trees, and graphs and associated algorithms.
- Co-facilitated a weekly recitation and facilitated small group discussions. Monitored an asynchronous class forum, responding to student questions about course material.

JOINT BASE COMMANDER'S ACTION GROUP (SSGT), USAF, Joint Base Andrews, MD

2017 - 2018

**Non-commissioned Officer in Charge**

- Managed Wing awards program operations and communications, ensuring award announcements and nominations were advertised and processed appropriately.
- Directed base Department of Defense Special Observances, organizing diversity and inclusion initiatives for observances including Black History Month, Hispanic Heritage Month, and LGBTQ Pride month.
- Owned Wing Strategic Calendar, advising 11 WG/CC and de-conflicting all strategic events. Planned and constructed quarterly 11th Wing Commander's Calls for two thousand attending Airmen.
- Designed official 11th Wing Mission Brief, prepared 11th Wing Commander to brief the Chief of the Indian Air Force and 40 staff.
- Arranged 70th Air Force Birthday Week staffing for three major events, including an air power demonstration attended by POTUS.

NUCLEAR AND PRESIDENTIAL SECURITY, USAF, Joint Base Andrews, MD

2012 - 2017

**Various Positions**

- Oversaw entry control and physical security requirements for Air Force One Maintenance and Support Complex.
- Supervised five security posts; patrolled and directed security and alarm checks. Identified, resolved, and reported discrepancies in Presidential areas and facilities. Prepared defenders to defeat a full spectrum of threats.
- Delivered on-scene command & control, responded to alarms and security incidents; protected >\$3.9 billion in Presidential assets.
- Supervised, mentored, and evaluated two Airmen to meet flight objectives and individual Air Force standards.
- Performed duties as nuclear security controller and response team member, ensuring the security of US nuclear warheads.

## ACHIEVEMENTS

- September 2017 National Capital Region Air Force Security Forces Association Defender of the Month.
- Recognized for integrity by Squadron Commander; only TDA Security Forces member to respond to active shooter threat.