

Alex Morch

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Bachelors Computer Science at Colorado School Mines, graduating May 2026
Focus area in Robotics and Intelligent Systems

Work Experience

- Worked as an intern at RF-SMART over Spring and Summer 2025, alongside the Enterprise1 department.
 - Fixing critical issues in the code
 - Optimizing and implementing features
 - Delivering custom modifications to clients
- Worked on an 'Emotional Flowerbed' project based on a client's specifications.
 - Python, Arduino, RaspberryPI, hardware, electrical engineering

Technical Experience

- **Field Session Work**
 - Worked for a client designing and improving an 'Emotional Flowerbed'.
 - Used Arduino, RaspberryPi, Firebase, encoders and lights to respond when users input an emotion.
 - Applied the Agile/Scrum methodology to work efficiently alongside a team.
- **Teaching assistant**
 - TA for course CS 128, September 2023 to 2025. In class assistance and office hours, ~5 hrs/week.
- **Hackathons**
 - Participated in the Blasterhacks hackathon, won second place in the healthcare category.
 - Participated in the W.A.R Lords hackathon, working with a group to complete a game in 12 hours.
- **First Robotics**
 - Participated in various First teams since first grade, including FTC team 10092, the Green.Griffins;
 - Worked with the mechanical team, designing and building a robot to perform a variety of tasks set by the First challenge.

Classes Taken (Through May 2026)

- Machine Learning
- Artificial Intelligence
- Human Robot Interactions
- Advanced Software Engineering
- Robotics

Personal Projects

- **Python, C++, and C#**
 - Words With Friends Optimization algorithm (Python)
 - A brute force algorithm that gives you the best move in Words With Friends or Scrabble.
 - Pongout (C++)
 - A mix between the classic games Pong and Breakout.
 - 3D Minesweeper (C# - Unity)
 - Minesweeper in 3D with fully customizable settings.
- **Desmos**
 - Terrain Generation Function (3D calculator)
 - Utilizes a randomly generated noise map with cubic interpolation to generate a variety of biomes and features.
 - 3D renderer (2D calculator)
 - Made with a friend, a 3D renderer with occlusion and lighting.
- **JavaScript/HTML**
 - Journaling reminder app
 - Created a web app using React.
 - Email based journaling system.
 - Worked with 3 others at the Blasterhacks hackathon

Skills

- Atlassian tools, Linux, Python, C++, C#, JavaScript/HTML, Java, Arduino, Object Oriented Programming
- Collaboration/Teamwork, Leadership, Problem solving, Analytical thinking, Agile Scrum, Github
- Engineering and Design, Code and peer reviews