IZAK HALSEIDE

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Professional experience

- **Undergraduate research assistant,** *Colorado State University*   *May 2024 – present*
  - Co-authored a paper, "Data Remanence Vulnerabilities in Commercial SRAM at Low Temperature"
  - Designed and ran experiments exploring the behavior of different commercial SRAM chips
- **Resident assistant**, *Colorado State University*   *August 2022 – May 2023*
  Lead and organized community events and helped students begin the journey at CSU
- **Freelance programmer,** *Zed Five Limited*   *September 2021*
  Improved and updated website security and maintained website features using PHP and JavaScript
- **Machinist Apprentice**, *Woodward, Inc.*   *June 2019 - March 2020*
  - Followed safety procedures while loading and unloading CNC milling machines
  - Inspected machined parts to match tolerances given in technical drawings

Skills

- **Digital logic**: Proficient in synthesis and analysis
- **AI**: Experience with foundational techniques in machine learning
- **Cryptography**: Knowledge of foundational mathematical cryptographic concepts
- **Computer networks**: Knowledge of networking principles and protocols
- **Tools**: Experience with Verilog, Cadence, Quartus, and Git
- **Programming languages**: Experience with Python, Java, C, C++, and ARM assembly

Projects

- **SRAM fingerprinting**
  Currently collaborating on a undergraduate senior design team project to develop a method for determining a unique family identifier from commercial SRAM chips
- **Boolean satisfiability solver**
  Developed a boolean satisfiability solver on a team using Python while incorporating techniques from boolean algebra
- **Networked multiplayer battleship game**
  Worked on a team project developing a networked battleship game using a Raspberry Pi server

Volunteer experience

- **Assistant counselor, Counselor, and Horse Barn Wrangler,**
  Solid Rock Ministries, Soldotna, AK   *June-July 2018, June-August 2021*
  Led activities for campers, ensured camper safety around horses, and barn stewardship
- **Work Team Volunteer,** *St. Innocent Orphanage, Tijuana, Mexico*   *June 2017*
  Contributed to community service and construction projects

Leadership and membership

- **President**
  - Rooted, a CSU student organization   *August 2024 - present*
- **Member**
  - Rooted   *August 2023 - present*
  - IEEE   *November 2023 - present*
  - HKN (Eta Kappa Nu), an honor society for electrical engineers   *November 2023 - present*

Education

B.S. in Computer Engineering, *Colorado State University*, May 2025 (expected), GPA: 3.6