

# Caleb Bettcher

calebbettcher@gmail.com | [linkedin.com/in/caleb-bettcher-83496328a/](https://linkedin.com/in/caleb-bettcher-83496328a/) | 720-643-7564 | Boulder, CO

## EDUCATION

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### University of Colorado Boulder

Bachelor of Science in Computer Science, Minor in Business

(Accelerated 3-Year Program)

Boulder, CO

**Aug 2023 - May 2026**

**Cumulative GPA** - 3.92, Dean's List

**Relevant Coursework** - Graduate Algorithms; Computer Verification; Generative Models; Neural Networks & Deep Learning;

**CU Energy Club** - Chief Financial Officer

**CU Triathlon Team, CU Freeride** - Member

**Aug 2023 – Present**

**Aug 2024 – Present**

## RESEARCH EXPERIENCE

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### Handshake AI Solutions

**Aug 2025 - Present**

AI Research Fellow (Formal Reasoning & Model Evaluation)

Remote

- Design structured evaluation prompts in formal logic, SAT/SMT solving, and advanced algorithmic reasoning to evaluate and fine-tune Large Language Models
- Analyze and resolve internal model reasoning failures to improve reliability and interpretability of AI systems

### University of Colorado Boulder - College of Engineering & Applied Science

**Aug 2024 – May 2025**

Machine Learning Research Assistant

Boulder, CO

- Developed a scalable data-processing pipeline to analyze six years of multi-dimensional satellite telemetry for atmospheric precipitation modeling
- Made use of the YOLO CV model and PyTorch to find patterns in upper atmosphere electron behavior
- Leveraged university research HPC clusters for scalable model training and resource management
- Presented on the application and optimization of ML/AI to astrophysics at a national research conference

## WORK EXPERIENCE

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### Belvedere Trading (Incoming Role)

**Summer 2026**

Quantitative Software Engineering Intern

Boulder, CO

- Develop low-latency algorithms for making real time decisions in electronic trading systems
- Apply quantitative and statistical methods to identify market inefficiencies
- Interface with market data pipelines and APIs in performance-critical environments

### Net-Results Marketing Automation

**May – Aug 2022 & 2023**

Full Stack Web Development Intern

Denver, CO

- Constructed new Javascript/React frontend and Laravel/GraphQL backend systems to handle multi-layered JSON mutations, execute user-customized marketing actions, test functionality, and synchronize data with platforms such as Salesforce and Dynamics 365 for over 20,000 active users
- Collaborated with developers to design, build, and implement user-customizable, automated marketing actions
- Partnered with customer success team to handle inquiries and solve user issues

## SKILLS & EXPERTISE

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- **Languages** - Python, JavaScript, Julia, C++, Java, SQL
- **Technical Skills** - Git, HPC Clusters, Machine Learning, Computer Vision, Data Analysis, Financial Analysis
- **Frameworks/Libraries** - PyTorch, YOLO, React, Laravel, GraphQL

## CERTIFICATIONS, AWARDS, INTERESTS

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- **Certifications:** TestOut - Network Pro, TestOut - Linux Pro, Handshake - Model Validation 2 (Expert)
- **Awards:** ThunderRidge High School - Valedictorian
- **Interests:** Software development, Artificial intelligence, Finances, Stocks, Rock climbing, Triathlon