

Caleb Bettcher

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EDUCATION

University of Colorado Boulder	Boulder, CO
Bachelor of Science in Computer Science, Minor in Business	(Accelerated 3-Year Program) 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	Aug 2023 – Present
CU Triathlon Team, CU Freeride - Member	Aug 2024 – Present

RESEARCH EXPERIENCE

Handshake AI Solutions	Aug 2025 - Present
AI Research Fellow (Formal Reasoning & Model Evaluation)	Remote
<ul style="list-style-type: none">Design structured evaluation prompts in formal logic, SAT/SMT solving, and advanced algorithmic reasoning to evaluate and fine-tune Large Language ModelsAnalyze 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
<ul style="list-style-type: none">Developed a scalable data-processing pipeline to analyze six years of multi-dimensional satellite telemetry for atmospheric precipitation modelingMade use of the YOLO CV model and PyTorch to find patterns in upper atmosphere electron behaviorLeveraged university research HPC clusters for scalable model training and resource managementPresented on the application and optimization of ML/AI to astrophysics at a national research conference	

WORK EXPERIENCE

Belvedere Trading (Incoming Role)	Summer 2026
Quantitative Software Engineering Intern	Boulder, CO
<ul style="list-style-type: none">Develop low-latency algorithms for making real time decisions in electronic trading systemsApply quantitative and statistical methods to identify market inefficienciesInterface 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
<ul style="list-style-type: none">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 usersCollaborated with developers to design, build, and implement user-customizable, automated marketing actionsPartnered with customer success team to handle inquiries and solve user issues	

SKILLS & EXPERTISE

<ul style="list-style-type: none">Languages - Python, JavaScript, Julia, C++, Java, SQLTechnical Skills - Git, HPC Clusters, Machine Learning, Computer Vision, Data Analysis, Financial AnalysisFrameworks/Libraries - PyTorch, YOLO, React, Laravel, GraphQL

CERTIFICATIONS, AWARDS, INTERESTS

<ul style="list-style-type: none">Certifications: TestOut - Network Pro, TestOut - Linux Pro, Handshake - Model Validation 2 (Expert)Awards: ThunderRidge High School - ValedictorianInterests: Software development, Artificial intelligence, Finances, Stocks, Rock climbing, Triathlon
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