

MISSIPSSA OUNNER

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mounnar.vercel.app · github.com/mounnar

EN / FR (fluent) · AR (conversational) · Berber

• SUMMARY

Undergraduate pursuing a dual BS in Mechanical Engineering and Computer Science at UC Denver. Self-directed machine-learning and quantitative research since December 2025. Hardware hands-on (CAD, mechatronics, custom dual-5090 workstation built from scratch) combined with software depth — **LLM compression research under active patent filing**, an autonomous agentic AI system, and a **live-funded C# quantitative trading system**. Full portfolio and case briefs at mounnar.vercel.app.

• RESEARCH & PROJECTS

UltraCompress — LLM Compression Research →

APR 2026 - PRESENT

mounnar.vercel.app/projects/ultracompress

Patent pending · method held privately · Python, PyTorch, CUDA, dual-GPU workstation

- Novel neural-network compression method that preserves downstream performance under substantial parameter reduction.
- Cross-family validation across multiple open-weight language models without per-model tuning.
- Rigorous evaluation methodology: held-out benchmarks, matched-parameter baselines, bootstrap confidence intervals, pinned reproduction guide.
- Method, specific metrics, and source held privately during active patent filing. Available for NDA-scope discussion.

Athena — Autonomous Agentic AI (Aeon) → mounnar.vercel.app/projects/athena

MAR 2026 - PRESENT

Private · Python, C#, LangGraph, MCP, Docker

- Multi-layer cognitive architecture targeting genuine reasoning and long-horizon memory rather than single-shot LLM generation.
- Integrated with live data streams through multiple concurrent services for real-time context.
- Founded Aeon as parent company for AI and quantitative ventures.

Multi-Instrument Quantitative Trading System → mounnar.vercel.app/projects/quant

DEC 2025 - PRESENT

C#, Python, NinjaTrader 8, Rithmic L2, XGBoost / LightGBM / CatBoost

- Automated multi-instrument futures trading system running NQ, ES, Gold, and ETH concurrently on a live Level-2 CME data feed.
- Walk-forward machine-learning pipeline with regime-conditional signals, calibrated position sizing, and conservative risk controls.
- **Passed the TopStep \$150K Express funded-account evaluation** on live data. Specific signals, features, and risk logic held privately.

Custom HPC Workstation — Dual-GPU Liquid-Cooled Build

2025 - PRESENT

AMD Ryzen 9 9950X3D · 2x RTX 5090 (liquid cooled) · 128–256 GB DDR5

- Designed and assembled a dual-GPU workstation from scratch to run concurrent live trading, ML training, and agentic AI inference workloads. AVX-512-optimized, thermal-tuned.

Motorcycle Engineering Project

2025

SolidWorks · MATLAB · FEA · Mechatronics

- Custom build applying materials science, torque/stress analysis, and mechatronics. Integrated mechanical and electronic subsystems.

• EDUCATION

University of Colorado Denver EXPECTED MAY 2027

B.S. Mechanical Engineering + B.S. Computer Science

Minor: Physics · GPA: 3.6

Previously pursued Aerospace Engineering.

Self-directed ML & Quantitative Research DEC 2025 - PRESENT

Market microstructure, neural-network compression, agentic architectures. Produced compression research under active patent filing in five months.

• EXPERIENCE

Operations Associate 2023 - PRESENT

Denver International Airport

Airfield operations at a major international hub: FAA Part 139 inspections, wildlife monitoring, NOTAM issuance, snow-removal coordination across ATC, airline, and ground teams.

Undergraduate Teaching Assistant 2023 - PRESENT

UC Denver — Engineering Fundamentals & Engineering Design

Support 50+ undergraduate students per semester through labs, office hours, and design-project mentorship.

CAD Drafter 2022 - 2023

XDS Fire · Denver, CO

NFPA-compliant fire-suppression drawings for Fortune 500 and government clients using AutoCAD.

Engineering Intern 2022 - 2023

Geocal Inc. · Denver, CO

Environmental restoration fieldwork on the Little Blue Creek project under a licensed PE, in coordination with the U.S. Fish & Wildlife Service.

• SKILLS & TECHNOLOGIES

LANGUAGES

Python · C# · C · C++ · Java · SQL · TypeScript · JavaScript · PowerShell · Pine Script · MATLAB

ENGINEERING

AutoCAD · SolidWorks · ANSYS · FEA · CFD · Mechatronics · Hardware Design

ML / QUANT

PyTorch · scikit-learn · XGBoost · LightGBM · CatBoost · pandas · NumPy · statsmodels · walk-forward backtesting · Monte Carlo

TRADING

NinjaTrader 8 · Rithmic L2 · TradingView webhooks · Level-2 order flow

WEB / BACKEND

Next.js · React · React Native · FastAPI · Flask · WebSocket · Docker · Tailwind

DATA / SYSTEMS

PostgreSQL · SQLite · Redis · Chroma · Linux / Windows admin · Git · CUDA · AVX-512 · HPC tuning · MCP servers

• CERTIFICATIONS

OSHA 10 · General Industry 2020 - Present

U.S. Army MOS 91B · Wheeled Vehicle Mechanic 2020 - 2021