Evan D. Oman

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Experience

Omega Point Research — *Senior Python Software Engineer* — **August 2023 - Present**
- ▷ Build scalable Python data pipelines using Spark/Databricks/Airflow, efficiently processing trillions of financial data points
- ▷ Collaborate with App and Product teams to deliver backend systems for advanced financial risk and optimization use-cases
- ▷ Provide technical leadership and mentorship, drive refactoring of legacy systems, contribute to new GenAI-powered features

ZAIS Group LLC — *Senior Software Architect* — **April 2021 - August 2023**
- ▷ Led technical efforts to develop data-focused applications for a portfolio manager with $7 billion in assets under management
- ▷ Designed cloud(Azure) architecture, developed data pipelines(Airflow), implemented complex financial calculations(Python)
- ▷ Worked with executive leadership to set project direction, interpreted domain knowledge from SMEs to guide rest of team

Self-Employed — *Data Science Consultant (Part Time)* — **2016, 2020, 2023**
- ▷ Worked part-time as a data science consultant with Salt IO for clients in the financial industry(ZAIS, Wells Fargo, DBRS)
- ▷ Gathered requirements from clients; researched and evaluated approaches; developed and released software systems

Black River Systems Co. — *Software Engineer* — **May 2015 - April 2021**
- ▷ Developed analytical software systems and investigated machine learning solutions for several government agencies
- ▷ Interfaced directly with customers and directed engineering efforts, authored two successful contract proposals ($1.1M total)
- ▷ Received shareholder's award for technical work and for starting and leading an informal technical speaking series

Projects

Indexes in the OP Platform — **Omega Point Research**
- ▷ Technical lead for an effort to integrate third-party equity indexes into the Omega Point data platform as first-class entities
- ▷ Helped design app interfaces, developed PySpark code to apply risk models to 100M+ index, model, date combinations

Portfolio Change Summarization using LLMs — **Omega Point Research**
- ▷ Proposed and led internship project to build a Python tool which uses LLMs to summarize changes in portfolio risk/return
- ▷ After building the initial prototype, I led the effort to integrate the new summarization service into the primary application

Portfolio Testing, Optimization, and Construction — **ZAIS**
- ▷ Led the development of a Python web service which allows portfolio managers to test, optimize, and construct loan portfolios
- ▷ Helped collect and merge requisite data from varied sources, implemented compliance tests based on legal documentation
- ▷ Implemented linearly constrained greedy optimization approach based on Excel prototype, developed live data visualization

Tenant Name Disambiguation — **Independent Consulting, Wells Fargo**
- ▷ Working to disambiguate tenant names in a dataset of commercial real estate leases (over 100k rows, no ground truth)
- ▷ Researched approaches, built system around the Python Dedupe library, using clustering metrics to evaluate performance

Simulation Model Refactoring, Performance Improvements — **ZAIS**
- ▷ Improved Monte Carlo simulation model by adding tests, fixing bugs, improving data access, and improving total runtime
- ▷ 3x runtime improvement using line profiler and additional Numba, prototyped 250x improvement using 500 AWS λ functions

Loan Implied Ratings Model — **Independent Consulting, ZAIS**
- ▷ Worked closely with SME to translate an Excel model into a more versatile Python app. (as both CLI tool and Teams Bot)
- ▷ Reverse-engineered process, developed a more efficient approach using a quadratic programming formulation of the problem

Low SWaP Threat Detection System — **Black River Systems**
- ▷ Project lead for R&D of an edge computing system which applied deep learning techniques for signal ID and threat detection
- ▷ Collected data, trained and tuned models (Keras, Ray, Docker), developed integrated inference app (Python, Redis, UDP)

Software Improvement Effort — **Black River Systems**
- ▷ Expanded the quality, reliability, availability, and feature sets of a suite of legacy, multi-platform `C++` desktop applications
- ▷ Authored unit tests (Catch2), refactored complex code (`C++`), developed automated testing system (Java), led adoption of automated testing, GitLab CI, and Docker

Education

University of MN Duluth — *M.S. Applied Mathematics, CS Minor* — **May 2015**
- ▷ Studied under Teaching Assistantship and Chancellor's Fellowship, 20 credits of graduate level CS coursework, **GPA: 3.67**

Bethany Lutheran College — *B.A. Mathematics* — **May 2013**
- ▷ Graduated Magna Cum Laude with **in-major GPA of 3.8**, 2013 Student Body President, graduated in three years

Skills

Languages/Frameworks/Tools: Have worked in `Python`, `Java`, `Scala`, `C`, `R`, `Perl`, LaTeX(link to résumé src); Flask, PySpark, Docker, `git`(Github: EvanOman), Gitlab/Github/Azure Devops CI, some Linux; Excited about Cursor, GPT/Claude, and MCP