Charles Bauer

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Education

MS Computational Science and Engineering, Georgia Institute of Technology   *May 2025*

BS Industrial Engineering, Georgia Institute of Technology   *December 2023*
- Minor in Computing Intelligence   *GPA 3.89/4.00*
- Exchange student at National University of Singapore, Spring 2023

Skills

Software Development:	Python, JavaScript (Next.js), Java (Spring Boot), Kafka, Spark, Kubernetes, Docker, Git
Python Fundamentals:	NumPy, Pandas, Steamlit, Selenium, TensorFlow, Keras, PyTorch, Threading, PyPy
LLM Agents:	OpenAI, AutoGen, LangChain, Hugging Face, OpenRouter, MCP, FastAPI
Database Management:	Azure, Oracle SQL, Databricks, Snowflake, GCP, AWS, PostgreSQL, SFTP, REST API

AI/ML Experience

Data Scientist, FIS, Atlanta, GA   *March 2025 –*
- Deployed OpenAI use-case to replace manual entry of derivatives configurations and adjustments with an advanced Azure architecture: webscraper, email reader, PDF text extractor, feature recognizer
- Documented large Spring apps for derivatives clearing and processing across many VMs and clusters
- Joining project to identify entities in agent bank notice PDFs and TIFs at 5 million yearly volume

Claims AI Intern, Elevance Health, Atlanta, GA   *May – October 2024*
- Deployed OpenAI use-case to identify claims to auto pay, ensuring mainframe integration and scalability
- Designed RAG pipeline with series of prompts and tested on 4 million claims including some PDF scans

Data Science Capstone, Power Utility Products Co., Remote   *May – December 2023*
- Built data model for potential demand in new markets using federal APIs and latest Python models
- Determined two new warehouse locations with integer programming using Gurobi and OpenStreetMap

Data Engineering Intern, Suntory Global Spirits, Chicago, IL   *May – August 2022*
- Forecasted demand with classical, Bayesian, and deep learning methods for hierarchical time-series data

Data Analytics Intern, Suntory Global Spirits, Chicago, IL   *May – August 2021*
- Launched Power BI data visualization software, convinced IT leadership to transfer 6 Tableau developers

Independent Projects

Custom Named Entity Recognition, GitHub   *August 2025 –*
- Building Next.js app to link PDF highlighting and entity table for no-code training and output verification
- Attempts PDF text extraction with PyMuPDF before advanced OCR with Google Tesseract
- User can train NER model (spaCy) and test pre-built RAG pipeline (LangChain, OpenRouter)

Research

Automated Algorithm Design, Georgia Tech Research Institute   *August 2021 – May 2022*
- Studied evolutionary algorithms (genetic programming) on neural networks for image classification CV
- Designed speciation mechanism for interaction effects in the mutation and crossover of CNN layers

Teaching

Math Tutor, Wyzant   *December 2022 – March 2025*
- Statistics, Probability, Linear Algebra, Machine Learning, Probabilistic Models, Excel

Teaching Assistant, Georgia Institute of Technology   *August 2021 – May 2024*
- Probability, Statistics, Decision and Data Analytics
- 2022 Industrial Engineering Undergad TA of the Year