Donnell Fulwiler

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Education

Texas A&M University — College Station, TX

B.S. Computer Science; Minor in Statistics; GPA: 3.93 / 4.00 — *Aug. 2023 – May 2027*

Experience

Undergraduate Research Assistant — 2025 – Present

Chemical Engineering, Texas A&M University — *College Station, TX*

- Designing convolutional neural network pipelines in Python (TensorFlow, PyTorch) to recognize subtle morphological patterns in bacterial microscopy images.
- Collaborating with graduate researchers to build reproducible ML workflows, manage large labeled image datasets, and track model performance while adhering to NDA constraints.

Undergraduate Teaching Assistant, CSCE 120 — 2025 – Present

Texas A&M University — *College Station, TX*

- Lead weekly C++ programming labs for a section of ˜40 students and support hundreds of students across the course through office hours and online help.
- Reinforce core CS concepts—control flow, functions, pointers, and basic data structures—through live coding, debugging sessions, and one-on-one mentoring.
- Built and maintained *Gradescope Sleuth*, an internal plagiarism-detection tool that enabled the teaching team to uncover roughly 10x more academic integrity violations per assignment with less manual effort.

Data Science Intern — Summer 2025

Kaizen Action LLC — *Remote*

- Engineered and backtested tactical trading algorithms on equities and other securities, with several strategies achieving over 15% simulated ROI on historical data.
- Processed multi-gigabyte financial time series using Python, pandas, and NumPy to clean, aggregate, and generate engineered features at scale.
- Applied econometric models (ARMA/ARIMA, GARCH, EGARCH) to capture volatility clustering and directional trends, reaching up to 85% accuracy on selected binary classification tasks.
- Experimented with TensorFlow-based Hidden Markov Models to model regime shifts and improve the robustness of trading signals.

Projects

Gradescope Sleuth | *Python, Selenium, SQLite, Regex, LRU Cache* — 2025

- Automates retrieval of programming assignments from Gradescope using Selenium and consolidates submissions into a local SQLite database for analysis.
- Implements a custom pattern-matching engine with optimized regular expressions and an LRU cache to efficiently surface suspiciously similar code segments.
- Enabled the CSCE 120 teaching team to identify roughly 10x more plagiarism cases per assignment while significantly reducing manual review time.

Personal Web Server | *React, Node.js, Express.js, Caddy, AWS Lightsail, Appwrite* — 2025

- Host two production web applications on an Amazon Lightsail VPS using Caddy as a reverse proxy with automatic TLS via Let's Encrypt.
- Developed donnell.info as a static React portfolio site showcasing projects, coursework, and writing.
- Built a secure React-based homework instruction portal for CSCE 120, using Google OAuth via Appwrite and an Express.js backend to gate access to course materials.
- Implemented "AI traps" in assignment text that only appear when copied to the clipboard, helping instructors detect LLM-generated work at scale.

ExSELLence POS | *React, Node.js, Express.js, PostgreSQL, Google OAuth, Google Translate, OpenWeather* — 2025

- Collaborated with a team of five to design and build a point-of-sale web application targeting small retailers.
- Implemented a responsive React frontend and RESTful Express.js API backed by PostgreSQL to manage transactions, inventory, and customer data.
- Integrated Google OAuth for authentication and used Google Translate and OpenWeather APIs to localize the interface and enhance the checkout experience for diverse users.

Technical Skills

Languages: C++, Python, Java, Haskell, JavaScript, SQL, HTML, CSS
Frameworks & Libraries: React, Node.js, Express.js, TensorFlow, NumPy, pandas, Selenium
Databases: PostgreSQL, SQLite3
Tools & Platforms: Git, Linux, Amazon Lightsail, Caddy, Appwrite
Domains: Machine Learning, Time Series Analysis, Econometrics