Phoenix Sheppard

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Education

The University of Michigan — Ann Arbor, MI

B.S.E in Computer Science, Minor in Geospatial Science — GPA: 3.73 — *May 2027*

- **Coursework**: Data Structures & Algorithms, Web Systems, Computer Organization, Unix Programming, Linear Algebra, Object Oriented Programming in C++

Experience

Pursuit Markets — May 2025 - Present

Software Engineering Intern — *Ann Arbor, MI*

- Saved **$140,000+** per year in redundant Llama Index and OpenAI API credits and compute costs by implementing content hash based re-extraction filters in the primary web scraping service
- Reduced memory footprint by **50%** in ECS Docker containers by switching from full in-memory S3 uploads to an async generator-based streaming approach, improving reliability for large file handling
- Spearheaded cleanup of **6,00,000+** duplicate MongoDB documents (15% of collection) through developing a custom deduplication pipeline with regex normalization and matching logic
- Enhanced the accuracy of a key customer-facing intelligence platform by **40%** by architecting an automated Temporal-based distributed web scraping workflow to ensure all contact data remained current within 30-days
- Resolved the **#1** customer demo blocker by implementing dynamic contact information tracking based on website HTTP status and content presence, contributing to the highest revenue month in company history

Citywide Painting Corp. — August 2020 – August 2024

House Painter, Invoice Clerk — *New York, NY*

- Painted Section-8 housing across all five New York City boroughs; coordinated with building management staff to organize daily agenda
- Invoiced management companies using Intuit QuickBooks and Yardi VendorCafe while logging and filing all business transactions

Projects

Fortnite Item Tracker | *Go, Gin, PostgreSQL, Docker, Telegram API*

- Developed a Telegram Bot and web app to alert users when cosmetics they track become available in the Fortnite item shop with mobile push notifications
- Implemented a secure authentication flow that uses Telegram Login for identity verification and issues JSON Web Tokens for session management
- Optimized SQL schema using normalized join tables, enabling efficient queries on many-to-many relationships

Raven | *Python, FastAPI, Celery, Redis, SQLite, Scrapy, Docker*

- Developed a distributed web scraper that identifies and prioritizes high-value links using a custom relevance heuristic powered by the ChatGPT API
- Engineered a scalable, asynchronous architecture leveraging Celery for distributed task queuing and Redis as a message broker, enabling the system to handle thousands of concurrent scraping requests
- Designed and implemented a RESTful API with FastAPI, providing programmatic access to source pages, target pages, and scraping statistics

Renewable Suitability Classifier | *Python, Scikit-Learn, Pandas, NumPy*

- Implemented Semi-Supervised Random Forest Classifier to predict site suitability for potential wind and solar energy installations across continental US using resource and technical potential metrics
- Extracted Typical Meteorological Year (TMY) data from the National Renewable Energy Laboratory's (NREL) Physical Solar Model; used Chi-squared statistical analysis for feature selection
- Authored research paper (1st author); accepted to International Journal of High School Science
- Presented work at the Junior Science and Humanities Symposium; placed 2nd in NYC region, 7th in NY state

Skills

Languages: C++, Python, Go, JavaScript/TypeScript, Java, SQL

Tools: MongoDB, PostgreSQL, SQLite, Docker, Git, Linux/Unix, Redis, AWS, Node.js, OAuth 2.0, Temporal.io

Frameworks/Libraries: FastAPI, Gin, Next.js, Nest.js, React.js, Pandas, NumPy, Scikit-Learn, Playwright, Selenium