

Arthur Perng

📞 669-266-8240

✉ arthur@perng.com

🌐 arthur.perng.com

📺 [arthurperng](https://www.linkedin.com/in/arthurperng)

🎮 [Happygator](#)

Education

University of Maryland

Expected Jun 2027

B.S. in Computer Science and Mathematics, Minor in Computational Finance | GPA: 3.94/4.00, Dean's List College Park, MD

Technical Skills

Languages: Python, Java, C++, OCaml, SQL, TypeScript, C, R, Matlab

Libraries: pandas, NumPy, Flask, PyTorch, matplotlib, FastAPI, Flutter

Developer Tools: Microsoft Azure, Google Cloud, Firestore, Git, MongoDB, Claude Code, OpenAI Codex, Antigravity

Awards: USA Coding Olympiad Gold, Top Reverse Engineering Competitor of US Cyber Open, AIME Qualifier

Topics: LLMs, AI Agents, ML Systems, Data Pipelines, Backend/API Design, Data Visualization, Numerical Methods

Experience

Capital One

Jun 2025 – Aug 2025

Machine Learning Intern

McLean, VA

- Built an LLM routing system to direct 50K+ daily queries to optimal models.
- Designed the routing and ETL pipeline to make decisions in 200ms with 88% accuracy.
- Optimized 4+ endpoints, reducing infrastructure costs by \$150K+ annually.

NASA Goddard Space Flight Center

Jun 2024 – Aug 2024

Software Engineering Intern

Greenbelt, MD

- Built a Python library and Jupyter notebook tutorial for NASA's TOLNet API, driving adoption to 1K+ daily requests
- Organized API data using pandas and matplotlib to create curtain plots for ozone-layer visualization.

Research

UMD FIRE Research | R, Python, terra, tidyverse

September 2023 - May 2024

- Evaluated how expansion of the Maryland Silver Line affected home rental prices using historical data.
- Wrote R code using terra and tidyverse libraries to create linear regressions and created plots using matplotlib.

Projects

Google AI Agent Capstone Project | Python, Google ADK, FastAPI, Flutter | [Github](#) | [Youtube](#) June 2026 - Ongoing

- Built a concierge AI agent using Google ADK and Gemini to troubleshoot appliances, an MCP-based tool server for OEM data lookups, and a rules-based escalation engine to ensure safety-critical guidance.
- Deployed a production FastAPI backend on Google Cloud Run with Firestore and Cloud Storage, including a PDF ingestion pipeline for large manuals.
- Developed a cross-platform Flutter client (Android, iOS, Windows) with vision recognition and chat UI.

Polymarket Calibration Research | Python, pandas, SQLite, DuckDB | [Github](#)

June 2026 - Ongoing

- Built a resumable Python crawl/ETL pipeline to collect 1.34M Polymarket markets and 9.4M historical price snapshots into an indexed SQLite database queried with DuckDB over 5.9M rows.
- Computed calibration metrics including bucketed realized-vs-implied probability, Wilson confidence intervals, Brier score, log-loss, and Expected Calibration Error.

Wynncraft Market Intelligence Dashboard | TypeScript, React, SQLite | [Github](#)

June 2025

- Built a Python ingestion pipeline to collect Wynncraft trade listings and store historical market snapshots in SQLite.
- Computed market metrics (VWAP, slippage, price impact, liquidity, volatility) and served them via a FastAPI backend to a React dashboard.

Grocery Expense Analyzer | Python, Gemini Vision, SQLite | [Github](#)

January 2025

- Built a Discord bot using Gemini vision + OCR to extract items and prices from grocery receipts, storing them in SQLite for future analysis