

Henry Pham

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devpost.com/maybiiLen | henrypham.tech | U.S. Citizen | Security Clearance Eligible

EDUCATION

University of Houston

Houston, TX

B.S. Computer Science, Minor in Finance — Dean's List — GPA: 3.51/4.00

Expected May 2028

- **Relevant Coursework:** Data Structures & Algorithms, Operating Systems, Object-Oriented Programming, Database Architecture

WORK EXPERIENCE

Software Engineer Intern, Artemis Mission Data Modeling

June 2026 – Aug. 2026

National Aeronautics and Space Administration (NASA)

Houston, TX

- Built a pivot-table parser in **Python** converting Mission Definition Baseline (MDB) data from Excel into section-numbered Word documents, pulling requirements from 5+ Artemis III programs including HLS, SLS, Orion, Human Health and Performance, and xEVA; runs fully local with no data storage to protect sensitive content
- Developed an Excel-to-**Power BI** dashboard for the acting Artemis III Mission Manager, tracking mission progress by status from Google Form submissions, replacing manual PowerPoint reporting
- Built a mission auto-scheduler using Python, **OR-Tools CP-SAT**, and Flask that ingests planning documentation through a Retrieval-Augmented Generation (RAG) pipeline over **pgvector** with a local Ollama LLM, extracting activities and constraints via structured output and tool-calling to generate valid mission schedules
- Exposed the solver over a REST API with a vanilla-JavaScript dashboard supporting natural-language schedule edits through **prompt engineering**, containerized with **Docker** for staff testing and handoff
- Built an AI-powered document summarization tool for the Director of the Exploration Operations Office, using NASA's **Ask Sage** secure AI platform (FedRAMP High, CUI-approved) to ingest mission documents and generate structured summaries routed to the NASA Administrator

Software Engineering Intern

Oct. 2025 – May 2026

Pcuro

Austin, TX

- Built **Stripe Connect** Express KYB onboarding for B2B suppliers using Node.js and Express, implementing embedded account sessions and webhook-driven state reconciliation
- Shipped refund and dispute system with ledger-based platform-fee reconciliation in **PostgreSQL**, attributing non-refundable fees on refunds and chargebacks, validated with \$10K+ sandbox transactions
- Engineered cross-border US/UK payment flow on **Stripe FX Quotes API**, diagnosed a double foreign exchange surcharge bug and reassigned conversion cost from buyer to platform

PROJECT EXPERIENCE

flybetter.ai – TAMUHack 2026 Hackathon

Jan. 2026 – Jan. 2026

- Developed an AI-powered flight rebooking assistant using **Next.js**, React, and **Gemini API** that helps passengers find alternative flights during cancellations and delays
- Engineered a flight matching algorithm in **Python** using **FastAPI** that ranks alternative flights against 3 weighted user preferences: price, time, and layovers

PenguinPipe – TIDALHACK:26 Hackathon

Feb. 2026 – Feb. 2026

- Built an ML-powered pipeline anomaly tracking system using Python, **scikit-learn**, and **SciPy** to match, cluster, and predict anomalies from 2009, 2012, and 2015 In-Line Inspection (ILI) datasets
- Developed full-stack application with **Next.js**, TypeScript, Tailwind CSS frontend and **FastAPI** backend, integrating MongoDB for data ingestion and model retraining

TECHNICAL SKILLS

Languages: TypeScript, JavaScript, Python, C++, SQL, HTML, CSS

Frameworks & Libraries: React, Next.js, Node.js, Express, FastAPI, Flask, Tailwind CSS, scikit-learn, NumPy, pandas

AI & ML: LLMs, RAG, pgvector, Ollama, structured output, tool-calling, prompt engineering, OR-Tools (CP-SAT), constraint programming

Databases & Cloud: PostgreSQL, MongoDB, AWS, Vercel, Stripe Connect

Tools & Concepts: Git, GitHub, Docker, CI/CD, Postman, Jira, Figma, Microsoft Power Apps, Power BI, REST APIs, Agile/Scrum

Certifications: AWS Certified Cloud Practitioner; UR2PhD Undergraduate Research Training Course, Computing Research Association (May 2026)