

Akash Wudali

awudali@terpmail.umd.edu | linkedin.com/in/akash-wudali | github.com/AkashWudali12

EDUCATION

University of Maryland - College Park

Bachelor of Science: Computer Science and Robotics

Expected Graduation: May 2027

Honors: Presidential Scholar

EXPERIENCE

Software Engineer Intern

June. 2025 – Aug. 2025

Parsons Corporation — C#, .NET, TypeScript, React, Azure, PostgreSQL

Centreville, VA

- Saved **1,000+** hours of manual data entry by building an LLM-powered system that auto-fills Word documents
- Built new .NET services and React components into ParsonsGPT, an internal tool used by **10,000+** employees
- Reduced document auto-filling response time by **72%** by parallelizing recursive XML tree traversal
- Developed C# services and PostgreSQL schema updates to enable secure sharing of user-defined AI workflows
- Improved regex throughput by **75%** by replacing interpreted regex with source-generated patterns

Software Engineer Intern

June. 2023 – Aug. 2023

Leidos — Python, XML, Bash, Protobuf

Reston, VA

- Processed and visualized protobuf telemetry from **600+** satellites using a custom Python API integration
- Utilized Python to display satellite coordinates as a density heatmap to support analysis of distribution
- Reduced acronym lookup time by **200%** with a Python script to define military acronyms in Word documents
- Tested and debugged Bash scripts used to process XML messages between legacy military systems

PROJECTS

Amazon Project Kuiper (UMD App Dev Club)

Feb. 2025 – May. 2025

- Contracted by **Amazon's Project Kuiper** through **UMD App Dev Club** to develop an internal dev tool
- Developed a platform that identifies satellite ground station locations, saving **\$100,000+** in licensing costs.
- Built a scalable geospatial tiling pipeline in Python using FastAPI, R-tree, pyproj, and Shapely libraries
- Integrated ML inference results from AWS Sagemaker into a dynamic real-time React + Mapbox heatmap
- Engineered interactive heatmap using AWS S3 to preassign URLs and seamlessly visualize satellite locations
- Conducted user interviews and product demos to identify product pain points and help shape its direction

ProfMatch

Apr. 2025

- Launched ProfMatch—a researcher discovery tool gaining **190+ users** (tracked via Google Analytics)
- Demoed ProfMatch to **2000+** people on LinkedIn and interviewed **100+** users to assess product market fit
- Engineered a Python web scraper to extract publications from **600+** profiles/hour to generate vector embeddings
- Stored and managed **10,000+** records in Pinecone using vector embeddings generated from a Hugging Face model
- Ranked matches with cosine similarity, delivering query results in under **5 seconds**, syncing updates to Supabase

InstaLetter

Feb. 2025

- Created a chrome extension that generates cover letters in **under 20 seconds** saving applicants **100+** hours
- Designed a pipeline to parse resumes and job descriptions and generate tailored cover letters via Gemini API

USD/TRY Trading Model

Aug. 2024

- Integrated Yahoo Finance and World Bank Python APIs to efficiently collect 10+ years of USD/TRY data
- Backtested long/short trading strategy, achieving a Sharpe ratio of **3.6** and forecasting volatility up to 90 days

Pneumonia Detection Model

Apr. 2024

- Achieved **87%** diagnostic accuracy with a Pneumonia detection ML model using a Stacking Ensemble method implemented in Python, combining an SVM, Deep Neural Network, and DenseNet-169 for image preprocessing.

OPEN SOURCE CONTRIBUTIONS

- **preswald (3.3k stars)** — added functionality for PDF display using Python and React; awaiting review.
- **katna (354 stars)** — implemented helper methods to return keyframes with timestamps and durations, and fixed a fatal error; merge ready and awaiting review.

TECHNICAL SKILLS

Languages: Python, TypeScript, C#, SQL, Java, C, MATLAB, OCaml, Rust

Software: AWS, Azure, PostgreSQL, Docker, Git, Supabase, Firebase, Flask, FastAPI, TensorFlow, Railway, Pinecone