

James Wright

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EDUCATION

Duke University

Major: Mathematics and Computer Science | GPA: 4.0

Durham, NC

August 2025 – May 2028

Thomas Jefferson High School for Science and Technology

GPA: 4.576/4.0 Weighted

Alexandria, VA

August 2021 – June 2025

EXPERIENCE

Software Engineer

Duke University, Code+

- Building LLM-driven honeypot prototyping and threat analysis tools for STINGAR, an AI-powered cyberdefense platform used across **70+ partner universities**

May 2026 – August 2026

Durham, NC

Data Analyst

Duke Impact Investment Group

- Accelerated case discovery from a **15M+** row patient dataset, as measured by mapping **1,000+** ICD-10 codes to de-identified cases for **Gradient Health**, by engineering a parquet search pipeline with an LLM coding system
- Delivered growth insights for **HayhaBots** across a **4,000+** message Discord dataset, as measured by actionable business recommendations, by applying RoBERTa and VADER in a dual-model NLP pipeline

September 2025 – Present

Durham, NC

ML Engineer

Duke Applied Machine Learning

- Built a longitudinal Alzheimer's disease forecasting pipeline to predict next-visit ADAS13 scores by extracting 3D MRI trajectory features across visits and modeling irregular time-series histories with Neural Controlled Differential Equations

September 2025 – Present

Durham, NC

Research Intern

Hickey Lab

- Published a scverse-compatible Python package (MINGL) for probabilistic cell-type classification, as measured by **13 tool** and **13 plotting functions** spanning gradient, border, and heterogeneity analyses, by implementing Gaussian Mixture Models as a named co-author on a biorXiv preprint

September 2025 – Present

Durham, NC

PROJECTS

Saynario | React, FastAPI, WebSockets, Gemini, Claude, Whisper, ElevenLabs, DigitalOcean

April 2026

- Built and deployed a voice-first language learning app that turned each completed conversation into a personalized next practice scenario by combining real-time roleplay, speech transcription, text-to-speech, and Gemini-powered adaptive coaching; won **HackPrinceton 2026 Best Use of ElevenLabs**

DataCrawl | Python, TypeScript, React, FastAPI, LangGraph, Firebase, Gemini, Auth0, Stripe, Solana

March 2026

- Automated financial dataset acquisition from plain-English requests, winning a **HackDuke 2026** award, as measured by full pipeline execution from prompt to validated schema-accurate files, by building a Gemini orchestrator coordinating **5+** subagents for crawling, normalization, and validation via LangGraph and FastAPI

ChessVision Digitizer & Recorder | Python, Roboflow, OpenCV, YOLOv11, Tkinter

August 2024 – June 2025

- Captured and digitized over-the-board chess games in real time as part of TJHSST senior research, as measured by **90%+ move detection accuracy** across arbitrary board angles, by training a YOLOv11 model on Roboflow-annotated piece images and integrating OpenCV for live board localization

CO2Ldown | React.js, Python, HTML, CSS, Firebase, FastAPI, NumPy, Crawl4AI, Gemini

November 2025

- Reduced user carbon footprints through a joint website and Chrome extension, as measured by per-action carbon estimates surfaced across browsing sessions, by building an LLM-powered pipeline with Gemini function calling, prompt optimization, and Firebase auth and storage for personalized emissions tracking

Fake News Detection | Python, scikit-learn, NumPy, pandas, Hugging Face, NLTK

October 2025 – December 2025

- Classified news articles as real or fake at **99.5% test accuracy** on the **72,000+** article WELFake dataset, as measured by held-out test set performance, by fine-tuning Google's BERT and benchmarking against TF-IDF, Doc2Vec, and ensemble classifiers

Chess Engine Development | Python, C++

May 2024 – August 2024

- Achieved an estimated **1500 Elo** rating on Lichess.org with self-built engines deployed in both Python and C++, as measured by live bot ratings on the platform, by implementing iterative deepening, minimax, alpha-beta pruning, piece tables, and quiescence search

TECHNICAL SKILLS & AWARDS

Languages: Python, Java, C++, C, TypeScript, HTML, CSS

Libraries & Tools: NumPy, Scikit-learn, Pandas, Matplotlib, Keras, NLTK, Hugging Face, React, FastAPI, LangGraph, Firebase, OpenCV, Roboflow, WebSockets, Gemini API, Whisper, ElevenLabs, DigitalOcean, Auth0, LangGraph

Chess: Top **100** rapid players globally on Lichess.org (Dec 2025) | Top **50** Age-18 by USCF rating (Sep 2025) | **12th/237** at SuperNationals VIII (May 2025) | Virginia College State Champion (Mar 2026)