Uchechukwu Alih

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EDUCATION

Grambling State University <div align="right">Grambling, LA</div>
Bachelor of Science in Computer Science, Mathematics **GPA: 4.0** <div align="right">*Aug. 2023 – May 2027*</div>
Relevant Coursework: Scripting & Programming, Data Structures and Algorithms, Database Systems, Calculus I, II, III
Achievements/Awards: PEARC 2025 Scholar, Jane Street INFOCUS, The Diana Initiative Scholarship, 3X Hackathon winner
Leadership: Colorstack (Founding Member), Carnegie Young Leaders, Codepath, ACM, NSBE

EXPERIENCE

Software Development Intern <div align="right">May 2025 – Present</div>
SEO Tech Developer <div align="right">*New York, NY*</div>
- Developed an automated travel itinerary generation pipeline in Python, integrating Google Gemini and Yelp APIs to cut user travel planning time from about 5 hours to a few minutes
- Leveraged SQLAlchemy's ORM for stateful caching and transactional integrity eliminating 100% of redundant API calls
- Enhanced CI/CD pipeline and implemented unit, functional and integration tests reducing deployment errors by 100%

Security Engineering Apprentice <div align="right">Aug. 2024 – May 2025</div>
Propel Center <div align="right">*Atlanta, GA*</div>
- Performed targeted vulnerability assessments by mapping network topologies and enumerating services, leading to the identification of 5 high-priority vulnerabilities
- Automated reconnaissance tasks by developing Bash scripts, reducing manual data gathering time from 6 hours to 1 hour per assessment.
- Achieved top hacker ranking among 50 elite participants by capturing 60+ flags in a 12-hour CTF.

Lead Undergraduate Researcher and Library Support Technician <div align="right">Aug. 2023 – Present</div>
Grambling State University <div align="right">*Grambling, LA*</div>
- Spearheaded a NASA-sponsored Artemis IV research initiative exploring applications of laser & nanoparticles: Delivered a poster presentation of research findings at the 2024 Louisiana Academy of Sciences conference.
- Streamlined technical support by creating updated troubleshooting documentation, resolving patron hardware/software issues and reducing recurring help desk tickets by 20%.

PROJECTS

Quantitative Strategy Backtesting | *Python, Streamlit, Pandas, Matplotlib, NLTK(VADER), Git*
- Built a full-stack end-to-end quantitative analysis platform enabling the rapid prototyping and validation of sentiment-driven trading models.
- Engineered a robust automated ETL pipeline that sources and processes thousands of news articles and market data points from multiple APIs (NewsAPI, Yahoo Finance) utilizing the VADER sentiment analysis model to generate structured trading signals from unstructured text.
- Implemented a vectorized backtesting engine in Pandas to simulate strategy performance, accurately calculating next-day returns and cumulative P&L.
- Deployed the system as an interactive web application on Streamlit Cloud, featuring robust state management for a seamless user experience.

Edulingo | *HTML5, CSS3, JavaScript, Flask, Git, OpenAI speech-to-text*
- Secured 1st place with a team of 6 hackers out of 9 teams by developing Edulingo, a language learning platform, in a 9-hour hackathon
- Designed frontend using HTML, CSS and JavaScript and integrated efficient Flask backend, featuring secure POST endpoints
- Integrated the OpenAI speech-to-text API to provide real-time pronunciation feedback, achieving over 90% accuracy on a test set of common phrases

Data for Good Hackathon | *Python, Pandas, Seaborn, Microsoft Excel, Github* — **JP Morgan Chase Hackathon**
- Engineered a feature-mapping model that systematically translated 5 core non-profit values (Educational Equity, Economic Opportunity) into a set of over 20 metrics derived from large-scale US Census datasets.
- Constructed a predictive regression model ($R^2 = 0.88$) that validated a significant link between educational access and local economic indicators, guiding the non-profit's focus.

TECHNICAL SKILLS

Languages: Python, SQL, JavaScript, Bash, HTML5/CSS3, Dart
Frameworks: Flask, Flutter, Django, React, Node.js
Tools: Git, Docker, AWS, Google Cloud Platform, VS Code, Visual Studio, JupyterNotebook, Powershell
Libraries: Pandas, NumPy, Matplotlib, Seaborn, Pygame
Concepts: Databases, Full Stack, Agile, Object-Oriented Programming, API Design, CI/CD, Unit Testing, System Design