Carter Tierney

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EDUCATION

Georgia State University *B.S. / M.S. in CS with Privacy/Security*   GPA 3.76 Expected Spring 27
    Honors/Leadership: President of Barbell Club, Hackathon Winner, Graduate Assistantship (Top 15% of applicants)
    Relevant Courses: Sof Dev/Eng, ML, Algorithms/Data Structures, Database Systems, Data Science, Web/Mobile Dev

EXPERIENCE

Co-Founder *UrSim* [Github Link]   **Oct 2025 - Present**
- Designed frontend architecture for a scalable web-app with React/Typescript/AWS to deliver lineups to users.
- Engineered an optimizer with quantitative finance techniques(Monte Carlo, GARCH) using Python to solve constrained problems, generating 20-100 optimal lineups with 89.6% efficiency.
- Deploying SaaS desktop/web applications with monthly subscription pricing model to drive recurring revenue.

Software Developer *Paulk Clinic* https://www.thepaulkclinic.com/   **Aug 2025 - Present**
- Architected website frontend using PHP/CSS, achieving **25%** surge in patient engagement//**25%** reduction in bounce rate.
- Optimized website with WordPress plugins, boosting performance by **60%** and cutting page load time from **4.2s to 1.7s**.
- Highlighting trends and patterns using Google Analytics to support decision-making.
- Maintaining HIPAA compliance and clean code through SDLC practices in a heavily regulated industry.

Software Engineer Intern *Alpha Web Advisors*   **Oct 2024 - Aug 2025**
- Migrated **500+** properties (20K+ records) to PostgreSQL with 35+ validation rules, achieving **zero data loss.**
- Optimized SQL queries, boosting data accuracy from **92% to 99.8%** and cutting query time **18x** (3.2s → 180ms)
- Performed **EDA** on occupancy and pricing data to optimize lease fee adjustments, projecting a **3-5%** rise in rental income.
- Delivered Power BI data visualized insights within **Agile** sprints, replacing Excel workflows.
- Deployed AWS Amplify//RDS deployment pipelines, increasing system uptime to **99.9%** for **1300+** users.

Manager/Bartending Lead *Bartaco/Jon Taffer's Tavern*   **2022 - Present**
- Ranked **#1** bartender across 30+ locations (350 employees) by increasing premium sales through targeted promotions.

TECHNICAL SKILLS

Languages: Python, Java, C#/C++, JavaScript/TypeScript, SQL, PHP/HTML/CSS, Go
Frameworks: ReactJS, React Native, NodeJS, ExpressJS, React Native, Flutter, Spring Boot, FastAPI
Tools & Cloud: Agile/Scrum, Docker, Kubernetes, AWS, GCP, Git, CI/CD, Linux/Unix, REST APIs
Data & ML: GenAI, PostgreSQL, NoSQL, PyTorch, Pandas, NumPy, Power BI, Matplotlib, Seaborn

PROJECTS

Winner Emory Hacks: VoiceVitals | *TypeScript/React, ML/DL, GCS/Firebase* **|** [Devpost Link]   **Nov 2025**
- Built FastAPI + PyTorch ML pipelines to analyze voice recordings, achieving **~65%** accuracy in early dementia detection.
- Engineered a scalable doctor/patient dashboard web app with secure audio streaming for clinical trial data collection.
- Combined ML capabilities with Audio encoding/codec to innovate the future of telehealth monitoring//disease detection

Amazon E-commerce Analytics Platform | *NumPy, Pandas, Apache Spark/Kafka, ML, AWS* **|** [Github Link]   **Oct 2025**
- Developed a containerized deployable analytics platform, using big data tech to process **10,000** transactions per second.
- Optimized fraud detection using ML models, numpy, pandas: achieved **95%+** accuracy rating with **<2%** false positives.

Automated ETL Pipeline| *Python, SQL, Cron, Docker, Apache Airflow* **|** [Github Link]   **Aug 2025**
- Optimized multi-threading for tracking metrics of 50,000 records per second, scaling to **10M**.
- Designed a fault-tolerant execution system with automatic retry and real-time monitoring, achieving **99.9%** accuracy.
- Engineered batch processing using Python, achieving a memory of **<500MB per 1M** records