Tristan Johnston

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Education

University of Alabama at Birmingham — Birmingham, AL
Bachelor of Arts in Computer Science, Minor in History — *Aug. 2019 – Dec. 2023*

Experience

Full-Stack Software Engineer — Client Project — Oct 2024 – Mar 2025
A Pet's Day Out — *Birmingham, AL*

- Designed and delivered a full-stack internal dashboard that streamlined pet record management for 1000+ clients
- Built secure session-based authentication (Passport.js, local + Google OAuth)
- Modeled relational data structures to support multi-pet, multi-owner households, improving staff efficiency
- Developed a mobile-first UI, enabling non-technical staff to manage daily operations with minimal training, streamlining intake, management, and oversight over operations
- Integrated AWS S3 for scalable, fast photo uploads, cutting image load times from seconds to milliseconds

Technical Skills

Languages: Python, Java, JavaScript
Frameworks: React, Node.js, Express, Flask
Tools: Git, Docker, AWS S3
Databases: PostgreSQL, MongoDB, SQL
Testing/CI: JUnit
IDEs: VS Code, Eclipse, Visual Studio

Projects

Parcel Data Visualization | *Next.js, React, PostGIS, Docker*

- Built a full-stack web app to visualize parcel-level value-per-acre data with 3D extrusion and dynamic color interpolation, supporting datasets of 50k+ parcels
- Rendered GeoJSON with Deck.gl and MapLibre for smooth interaction and sub-second response times
- Deployed Dockerized PostGIS database with spatial queries optimized for city-scale datasets
- Implemented view state clamping and custom styling to highlight key parcels, improving user navigation

DocDock (RAG PDF Search) | *Next.js, Express, FastAPI, LangChain*

- Developed a self-hostable RAG-powered document search for natural language queries over PDFs
- Implemented text extraction, semantic chunking, and embedding pipeline in a Python microservice with vector DB storage
- Integrated GPT via LangChain to generate accurate, context-aware answers with citation metadata