Brandon Ellis

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Skills

Languages: Python, C#

Frameworks & Libraries: FastAPI, Django, NumPy, Pandas, SciPy, Unity3D

Databases: SQL(MySQL, PostgreSQL), NoSQL(Firebase, Mongo)

Tools & Technologies: RESTful APIs, LLMs, IoT, Projection Mapping, RFID, NFC

Cloud & DevOps: GCP, AWS, Docker, Kubernetes, CI/CD Pipelines, GitHub Actions

Education & Training

University of Memphis – B.S. Computer Science	2019
National Science Foundation(NSF) – Panel Reviewer	2024 - Current
USDA Natural Resources and Conservation – Committee Member	2023 - 2024

Experience

Senior Software Engineer, SpatialGrow – Memphis, TN   July '22 – Mar '25

- Developed a large-scale IoT-enabled controller using Python (Django & Firebase) to process and analyze real-time sensor data in distributed edge environments.
- Implemented concurrency and multi-threaded techniques to manage simultaneous data streams, ensuring seamless performance for geographically dispersed users.
- Managed project requirements and deadlines for multiple simultaneous initiatives, collaborating with stakeholders to align deliverables with organizational goals.
- Configured cloud infrastructure (Google Cloud) and CI/CD pipelines to facilitate rapid application updates, ensuring high availability and fault tolerance.
- Implemented LLM-based features for real-time content generation, integrating advanced AI capabilities into customer-facing solutions.

Senior Software Engineer, St. Jude Children's Research Hospital – Memphis, TN   Apr '22– Apr '24

- Engineered backend services for scalable immersive AI-driven experiences, integrating sensor data with cloud-based APIs.
- Architected multi-threaded systems to handle real-time sensor data (Kinect, RealSense) and interactive user inputs simultaneously.
- Implemented SQL databases for tracking user interactions, creating stored procedures and triggers to maintain data consistency and accuracy under high-traffic conditions.
- Developed data pipelines for real-time media processing, improving speech-to-text transcription accuracy.

Software Engineer, St. Jude Children's Research Hospital – Memphis, TN   Jan '19 - Apr '22

- Built and integrated real-time projection mapping systems using Flask, Touchdesigner, and WebSockets.
- Developed seamless integration of sensor data into immersive environments, leveraging Python frameworks and Unity3D.
- Implemented CI/CD pipelines using GitHub Actions, streamlining deployment workflows.