Tolgahan Poyraz

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EDUCATION

University of Central Florida, GPA: 3.85 Orlando, FL
Bachelor of Science in Computer Science & Mathematics *Expected May 2027*

EXPERIENCE

AI Data Specialist May 2024 – May 2025
DataAnnotation.tech *Remote*

- Evaluated large language model outputs for accuracy, safety, and adherence to complex instructions.
- Authored and refined realistic prompts to test AI capabilities in coding, NLP, and visual reasoning tasks.
- Performed peer reviews on annotations and prompts, ensuring the creation of high-quality training datasets.
- Managed an independent workload averaging 45+ hours per week in a remote environment.

PROJECTS

QueryAgent | *Python, LangChain, Docker, Qdrant, Streamlit*

- Built a prototype of a smart enterprise assistant to answer complex queries from structured and unstructured data
- Engineered a multi-tool agent using LangChain to route queries to SQL, vector, or graph databases.
- Developed a Retrieval-Augmented Generation (RAG) pipeline to provide context-aware answers from documents.
- Created a user interface with Streamlit, including observability dashboards and feedback mechanisms.

Secure File Sharing System | *Go, Cryptography*

- Designed and implemented a secure, multi-user file sharing system from the ground up using cryptographic primitives.
- Developed functionality for user authentication, file storage, and secure sharing in a hostile environment.
- Authored a comprehensive design document detailing data structures, threat models, and cryptographic protocols.
- Wrote extensive unit tests to achieve high code coverage and ensure system integrity and confidentiality.

TCP Protocol Implementation | *Python*

- Implemented a significant subset of the TCP protocol to provide reliable data transmission.
- Managed connection state, including the three-way handshake, data transfer, and active/passive connection teardown.
- Implemented packet retransmission logic using adaptive timeouts (RFC 6298) based on RTT estimation.
- Handled in-order and out-of-order packet delivery, honoring the receiver's advertised window.

Dynamic Memory Allocator | *C*

- Developed a custom dynamic memory allocator, implementing 'malloc', 'free', 'calloc', and 'realloc' functions.
- Implemented multiple free list designs including implicit, explicit, and segregated lists with boundary tag coalescing to manage memory blocks efficiently.
- Optimized for both space utilization and throughput, achieving high performance on trace-driven benchmarks.

TECHNICAL SKILLS

Languages: Python, C, Go, Java, SQL, JavaScript, HTML/CSS
Frameworks: LangChain, FastAPI, Flask, React, Streamlit, Docker
Developer Tools: Git, GDB, GCC, VS Code, Postman, Docker
Libraries/Databases: pandas, NumPy, Qdrant, DuckDB, PostgreSQL