Sertac Bahadir Afsari

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Education

University of Groningen, BSc in Computing Science — Sept 2022 - Present

- **Minor Courses:** Neural Networks, Introduction to Robotics, Information Retrieval, Computer Networks, Domain Analysis, Process-aware Information Systems
- **GPA:** 7.2/10

Experience

Artificial Intelligence Intern, FirstBatch – Hybrid (Istanbul, Turkey & Remote) — Aug 2024 – March 2025

- Conducted research on optimization methods for SWAN by analyzing results from generated simulations, identifying potential areas for improvement.
- Developed a cookbook with use cases, including fine-tuning for information extraction, to assist users in effectively utilizing Dria in their systems.
- Authored blog posts demonstrating how to use Dria to generate synthetic datasets for use cases such as evaluating Retrieval-Augmented Generation (RAG) systems.

Software Engineer Intern, TNO – Groningen, The Netherlands — Feb 2024 - June 2024

- Developed a visual and debugging application by using React and TailwindCSS to visualize S2 messages and the validation that the S2 Analyzer is doing.
- Increased the efficiency of detecting errors and unwanted messages by 70%.
- Assumed a Technical Lead role, guiding the project's technical direction and contributing to decision-making processes about the technical and nontechnical decisions.

Teaching

Teaching Assistant in Software Engineering Course — March 2025 - Present

- Observing and supporting student groups as they work on projects provided by industry clients.
- Monitoring and evaluating group performance by tracking individual contributions, group dynamics, and project progress.
- Supported client communication for student groups, ensuring professional interactions.

Projects

Dria Cookbook — Public Repository

- Developed a comprehensive cookbook to provide use-case examples for generating synthetic datasets using Dria, enabling users or businesses to efficiently simulate various real-life scenarios.
- The cookbook currently includes use cases for generating evaluation datasets for RAG systems and synthetic training data to fine-tune models for information extraction tasks.

Prompt Optimization for SWAN — Private Repository

- Created a DSPy-like program by using LLMs to optimize the given SWAN simulations.
- Conduct research with the program to evaluate simulations before and after optimization regarding several metrics.

Technologies

Languages: Python, Typescript, Javascript, C, Java, SQL (MariaDB,SQLite), HTML/CSS.

Libraries: DSPy, PyTorch, Pydantic, Firecrawl, Pandas, Java Swing, HeadlessUI.

Frameworks: React, Node.js, Material-UI, TailwindCSS.

Developer Tools: Git, Docker, Upstash, Vite.