Emir Kaan Korukluoglu

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EDUCATION

University of Massachusetts-Amherst — Amherst, MA
Bachelor of Science in Computer Science, Honors College — *Sep. 2022 – Present*

- Member of Commonwealth Honors College, Chancellor's Scholarship Award. **GPA: 3.5/4.00**
- Relevant Coursework: Search Engines and Information Retrieval, Machine Learning, Applications of NLP, Project Management

RESEARCH & EXPERIENCE

Artificial Intelligence and Software Development Intern — Jan 2025 – Present
Analytical Mechanics Associates — *Hampton, VA*

- Design and deploy an **LLM-powered geoscience assistant** that streamlines GIS workflows for Sentinel/Landsat data.
- Build and optimize **RAG pipelines**; implement a **code-repair module** that increases LLM-generated code accuracy by **50%**.
- Develop an **interactive geospatial map UI** with **SvelteKit + Leaflet.js** for user-friendly visualization.
- Automate **CI/CD** with **GitHub Actions, Docker, and tests**, cutting deployment time by **80%** and maintaining **99.9% uptime**.
- Engineer geoscience analysis modules with **Shapely, GeoPandas, OpenDataCube, Nominatim** to enable advanced spatial processing.

Undergraduate Researcher, UMass NGRAM — September 2023 – May 2025
University of Massachusetts Amherst — *Amherst, MA*

- Researched cross-lingual knowledge transfer; designed experiments, analyzed results, and co-authored publications.
- **Published work** accepted to **EMNLP 2025 Main**, **ICML 2025 Workshop**, **ACL 2025 L2M2**.
- Developed and maintained data pipelines and machine learning models to support ongoing NLP research.
- Built data pipelines and models with **Python, PyTorch, Hugging Face, vLLM, HPC computing** and **Git** in a collaborative workflow.

Software Developer Intern — June 2024 – August 2024
Isetia S.C. — *Warsaw, Poland*

- Developed and deployed an **LLM chatbot** with a vector database and ∼3,000 Q&A pairs, achieving sub-second latency for **1,000+ daily queries**.
- Implemented **Docker + Nginx + Gunicorn CI/CD and SSL**; reduced deployment time by **40%**; maintained **99.9% uptime** on **AWS EC2**.
- Led updates in standups and collaborated cross-functionally to unblock delivery and validate milestones.

Related Experience

- Predicted sleep position/movement with a **decision tree** achieving **82%** accuracy on labeled sensor data.
- Built a personalized **food recommendation system** for UMass Dining: **SvelteKit + shadcn/ui** front end; **Flask** API on **AWS EC2**; **SQLite** DB; daily **cron** scraping with **BeautifulSoup**

PUBLICATIONS

OWL: Probing World Literature | ICML 2025 MemFM Workshop, EMNLP 2025 Main Conference (Accepted)

- Co-Authored the paper, developed and released OWL, a multilingual dataset of 31,500 aligned literary excerpts across 10 languages—including 6 low-resource languages—to systematically evaluate cross-lingual memorization in large language models.

TECHNICAL SKILLS

Languages/Frameworks: Python, JavaScript, SQL, Flask, React, SvelteKit, PyTorch, Hugging Face, Geopandas, Shapely, OpenDataCube, Docker, Nginx, Gunicorn, Git, GitHub Actions, Pandas, NumPy, Matplotlib