Kaan Yigit

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Education

University of Illinois Urbana-Champaign *Expected Graduation: May 2025*

Bachelor of Science in Computer Science *GPA: 3.7/4.0*

- Grainger School of Engineering Dean's List: Spring 2024, Spring 2022 and Fall 2021
- Phi Kappa Theta, Beta Delta Chapter "Gregory Wooters Academic Excellence Scholarship": Academic Year 21-22 and 22-23
- Relevant Coursework: Text Information Systems, Applied Machine Learning, Database Systems, System Programming, Compilers, Deep Learning for Computer Vision, Computational Photography, High-Frequency Trading, Data Mining

Work Experience

Uniper *New York, NY*

Analyst Intern, Software and Data Engineering *May 2024 - Present*

- Designed and implemented a Flask application to aggregate and analyze real-time data from vendors using Azure and Snowflake. Transformed raw data into actionable models and visualizations, providing traders with up-to-date information for more informed decision-making
- Developed a system-level Excel-Python integration library to facilitate custom Excel operations within the Flask application, automating various custom tasks to ensure seamless data consistency.
- Optimized the system architecture by implementing data caching and asynchronous task queues, ensuring seamless data flow and real-time updates. Integrated spinnaker CI/CD pipelines to automate deployments, minimizing loading times during trading hours to facilitate continuous access.

Getir *Istanbul, Turkey*

Software Engineer *August 2023 - March 2024*

- Established and enriched New Relic dashboards to improve observability throughout the project. Identified critical bottlenecks and crafted dynamic load management solutions using AWS Redshift, resulting in reduced response times of up to 20-folds.
- Engineered a robust server-side notification system by implementing a task manager structure and consumables to automate Slack alerts in response to critical errors detected in micro-services, thereby facilitating proactive error management and system stability.
- Refined the implementation of the Chain of Responsibility pattern in the service architecture to increase system flexibility, facilitating rapidly changing business needs while conserving resources.

University of Illinois Urbana-Champaign *Champaign, IL*

Senior Course Staff, CS124 *May 2022 - May 2023*

- Identified and reported security vulnerabilities in the online platform through stress and exploit testing, thereby fostering a secure and equitable learning environment.Mentored a group of junior course assistants for professional development and understanding of responsibilities.
- Administered pre-release checks of weekly quizzes and the machine projects, ensuring these did not disrupt the class flow when released.

Projects

Beneath The Surface: Enhancing Scene Perception through Unified Semantic Segmentation and Depth Estimation *November 2024 - Present*

- Developed a multi-task learning framework leveraging MTI-Net architecture to unify depth estimation, semantic segmentation, and edge detection, enhancing scene understanding for indoor environments.
- Engineered advanced guided attention mechanisms to dynamically prioritize semantic segmentation features for depth refinement, achieving a validation depth loss of 0.0339 while significantly enhancing boundary delineation in depth maps.
- Optimized a ResNet-50 backbone by implementing multi-scale feature fusion with spatial alignment and channel dimensionality reduction, enabling high-fidelity processing of RGB-D data from the NYU Depth V2 dataset with superior computational efficiency.

Seat Share *July 2024 - October 2024*

- Developing a robust mobile application using React Native, ensuring seamless performance and a consistent user experience across both iOS and Android devices. Implementing intuitive UI/UX designs for enhanced user engagement.
- Integrating Firebase for real-time data synchronization and Stripe API for secure payment processing, enabling instant ride updates, reliable transaction handling, and seamless user authentication.
- Utilizing Redis for caching to enhance data retrieval speeds and PostgreSQL for managing relational data, ensuring efficient and scalable backend operations. Implementing comprehensive logging and monitoring for maintaining system reliability.

Tell IF Fake: Fake News Detection on Twitter *April 2024 - June 2024*

- Implemented TF-IDF for term weighting, Latent Dirichlet Allocation (LDA) for advanced topic modeling, and Gaussian Mixture Models (GMM) for probabilistic clustering, enhancing the analysis of textual data and significantly improving the differentiation of fake news.
- Integrated a pre-trained RoBERTa model for sophisticated sentiment analysis, effectively identifying emotional biases and manipulative content to enhance the accuracy of fake news classification.
- Deployed Naive Bayes and Random Forest classifiers on the LIAR dataset, achieving efficient binary classification and demonstrating a scalable alternative to resource-intensive deep learning models.

Extracurricular Activities

Phi Kappa Theta, Beta Delta chapter *Champaign, IL*

Vice President, Intellectual *November 2022 - November 2024*

- Leading committees focused on academic support, career readiness and service initiatives, fostering an environment conducive to academic excellence and personal growth for members, which resulted increase in chapter GPA by 15%, achieving the highest ever GPA.
- Co-administering an operational budget exceeding $100,000, ensuring strategic allocation and investments to facilitate operation.