Erol Kaan Bostan

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Personal Profile

A bachelor's student at the University of California, Davis currently pursuing a degree in Computer and Information Science with a minor in economics. Possessing expertise in software engineering with a focus on full-stack web development, algorithms, and artificial intelligence. Seeking opportunities in the fields of data science, data engineering, and Python development to leverage skills and passion for these areas.

Education

University of California, Davis *Davis, Ca*
BSc in Computer and Information Science and Minor in Economics *Jun 2023*
- GPA : 3.7
- **Related Courses:** Artificial Intelligence, Probability and Statistics for Computer Science, Agent-Based Modelling, Probability Theory, Web Programming

Projects

Pong Player *Davis, Ca*
University of California, Davis *Dec 2022 - Feb 2023*
- Designed and implemented an AI-powered Ping-Pong player using Convolutional Neural Networks (CNNs) and Deep Q-Learning algorithms to learn and improve its game play over time. Utilized Python with TensorFlow, Numpy, Matplotlib, OpenAI Gym, and Git.
- Collected and preprocessed large datasets of game frames and actions to train the CNNs and Deep Q-Learning models, achieving a high accuracy rate of 95%.
- Optimized the neural network model's performance using a custom loss function and stochastic gradient descent (SGD) optimizer.
- Managed project timeline effectively, demonstrating strong time management skills ,and wrote a comprehensive report about the project, effectively communicating project objectives, methodology, results, and conclusions.
- Demonstrated logical thinking and creativity in designing and implementing the AI-powered Ping-Pong player.

Connect 4 AI Player *Davis, Ca*
University of California, Davis *Jan 2023 - Mar 2023*
- Built an AI player in Python to play the classic game of Connect 4, using the Minimax algorithm with Alpha-Beta Pruning optimization to make decisions. Utilized Python with NumPy, Pygame, Python Threading, and Git.
- Implemented the Minimax algorithm in Python to explore all possible moves, score each outcome, and select the optimal move to increase chances of winning.
- Alpha-Beta Pruning reduces the number of nodes evaluated in the search tree by pruning branches that cannot lead to a better move than the ones already explored.
- Optimized the algorithm's efficiency by incorporating Alpha-Beta Pruning, reducing the number of nodes evaluated in the search tree.
- Developed a heuristic function to evaluate potential moves based on the number of possible winning combinations that could be achieved by placing a piece in a particular column.
- Demonstrated logical and critical thinking in designing and implementing the AI player and writing the report.

TikTok Pets Web Application *Davis, Ca*
University of California, Davis *Feb 2022 - Apr 2022*
- Developed a TikTok Pets web application that allows users to select their favorite animal videos in a series of two, which are displayed randomly and the user picks their favorite. After the first round, the website shows the two videos that the user liked in the previous round.
- Implemented the web application using React.js, HTML, and CSS to provide an interactive and responsive user interface, as well as employed the SQLite database to store the data for the animal videos, which can be easily retrieved and displayed in the application.
- Exemplified exceptional teamwork skills by collaborating with team members to design and implement the TikTok Pets web application.
- Effectively communicated the features and functionality of the application to stakeholders, including presenting to a professor in a formal setting.
- Demonstrated a commitment to delivering high-quality work and meeting project goals within a designated timeline.

Skills

Programming	Python (Pandas, PyTorch, NumPy, TensorFlow, Django.), R(ggplot2), C/C++, HTML/CSS, JavaScript, SQL.
Miscellaneous	Linux, R Markdown, Tableau, Microsoft Office, AWS Cloud, Git, TDD, YAML.
Soft Skills	Time Management, Teamwork, Problem-solving, Documentation, Critical Thinking.

Certifications

AWS Cloud Certified Practitioner, AWS *2023*

Languages

English   Professional proficiency
Turkish   Native proficiency

References available upon request.