Tal Erez

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Education

Duke University May 2025
Master of Engineering — Artificial Intelligence
Coursework: MLOps, Explainable AI, Sourcing Data for Analytics, Deep Learning, Modeling Process & Algorithms

University of California, San Diego March 2020
Bachelor of Science — Applied Mathematics
Coursework: Data Analysis and Inference, Applied Linear Algebra, Computational Statistics, Graph Theory

Skills

Languages: Python, C/C++, Java, C#, Objective-C, JavaScript, Ruby
Libraries: Tensorflow, Scikit-Learn, NumPy, Pandas, PyTorch, Matplotlib, Selenium
Technologies: Git, PostgreSQL, Azure, Docker, AWS (S3, CloudWatch, Lambda, DynamoDB)

Experience

Amazon, Remote July 2022 - January 2023
Contract Software Development Engineer

- Migrated databases for the Related Accounts Presentation Service (RAPS), the service used to connect one merchant account to another across regions worldwide, preventing loss of data before deprecation of the previous storage service.
- Created alarms in CloudWatch (an Amazon Web Service) to monitor errors, fatal logs and CPU utilization thresholds for the RAPS service. This resulted in faster response times to service failures.
- Built a filtering method in Ruby to retrieve a merchant's compliance status within a designated timeframe for the internal website used to conduct seller investigations. This new approach eliminated the need to parse through a seller's full history and reduced investigation times.

Shiver Entertainment Inc., Miami, FL July 2021 - July 2022
Software Engineer

- Contributed to the development of Hogwarts Legacy in collaboration with Warner Bros. and Avalanche Studios for the PS4, XB1 and Nintendo Switch consoles using Unreal Engine. Selling over 24 million copies globally, Hogwarts Legacy became the #1 best-selling video game of 2023.
- Converted the codebase from Unicode to UTF-8, saving 250 MB of physical used memory as reported by automation tests.
- Altered the multi-thread framework of the game to efficiently pin threads to specific cores in order to reduce idle time on the Nintendo Switch platform. This improved the average frame rate by 10 ms per frame.
- Implemented an LOD system for game visual effects which reduced memory usage by an average of 100 MB and utilized Unreal Engine scripting to create an automated way of implementing the new system for all platforms.

Kalloc Studios Inc., Carlsbad, CA October 2020 - July 2021
Software Engineer

- Supervised software development for all sectors of our PC, Android, iOS, VR and Hololens/AR platforms including UX/UI development, memory management and 3D simulation development.
- Created a recycler view framework for the PC platform. Benchmarking a reduction in size to large cache files by up to 25% and increased the average FPS for these files from 2 fps to 20 fps.
- Utilized forward kinematics to construct an algorithm which streamlined the process for animating vehicles in engine.
- Converted the company's VR platform from utilizing its own separate user interface to leveraging the software's PC interface, enabling users to switch platforms seamlessly.

Projects

Deep Q-Learning Simulation: Trained a reinforcement learning algorithm using Tensorflow to successfully complete landing simulations. Leveraged OpenAI's gymnasium library to create visual simulations of the model's performance.

Machine Learning Recommendation System: Developed a movie recommendation model using Sklearn and TensorFlow. Utilizing a neural network architecture, the model combines movie data and user preferences to produce precise recommendations.