Derek Jeong

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Summary

- Computer Science graduate with an emphasis in Artificial Intelligence and Front-end development.
- Dedicated to implementing computer vision with deep learning for robotics research and improving communications for the project team. Proficient in Python, JavaScript, and NoSQL.
- Proven ability to front-end knowledge, and experience to build interactive and user-friendly website with React.js.

Education

Oregon State University Corvallis, OR

Honors Bachelor of Science in Computer Science, 3.86 GPA June 2021

Research

- Data Analysis and Visualization with Unreal Engine - URSA Engage 2019 with Dr. Raffaele de Amicis
- Improve the Grasping Performance by Analyzing Target Objects with Computer Vision and Deep Learning Algorithm - Honors College Thesis with Dr. Cindy Grimm

Work Experience

Front-End Developer June. 2021 – Jan. 2022

Webwizrds LLC. Sacramento, CA

- Managed website development projects with the web development team and optimized all cross-browser and multi-platform responsiveness.
- Implemented user-friendly interfaces and functionalities for the website development projects with React and node.js.
- Worked closely with other developers in the team to meet project goals, requirements, and desired functionality.

Undergraduate Research Assistant Nov. 2019 – May. 2021

Oregon State University Corvallis, OR

- Implemented computer vision with OpenCV, PyTorch and Mujoco robotics as an undergraduate research assistant in the Dr. Cindy Grimm's grasping robot research team at Oregon State University
- Explored object detection frameworks (YOLOv3) and developed object measurement with OpenCV to get the location of detected object, it reached average 89% accuracy with 3D-printed shapes

Projects

Interactive Visualization for AI Education | JavaScript, React, TensorFlow, Keras Sep. 2020 – June. 2021

- Undergraduate senior capstone team project with a mentor, Dr. Kahng Minsuk
- Developed a web-based interactive visualization tool with Jupyter Widgets and python for beginners who want to learn about AI or machine learning with various models
- Generated various visualization features like confusion matrix, accuracy changes, feature extractions, and connections across layers of AI model

Automatic investment bot for Cryptocurrency | Python, PyQt, OpenAPI April. 2021 – April. 2021

- 2021 BeaverHacks Hackathon project with another undergraduate student
- Developed an automatic investment bot for cryptocurrency with cryptocurrency market's OpenAPI and Volatility Break-out strategy
- Designed user-friendly interfaces to check cryptocurrency's overview, chart, ask and bid orderbook, and login ownaccount with API keys

Teachable Machine | JavaScript, TensorflowJS, NodeJS March 2020 – Sep. 2020

- Independent project with a mentor, Dr. Kahng Minsuk
- Developed web-based tool with JavaScript that makes creating machine learning classification models fast, easy, and accessible to everyone
- Implemented Knn classifier and Neural Network with TensorflowJS API and it shows over 90% accuracy for each class with at least 10 images

Object Detection for Grasping Robot | Python, OpenCV, TensorFlow, YOLOv3 Nov. 2019 – May. 2021

- Honors Thesis Project with a mentor, Dr. Cindy Grimm
- Implemented YOLOv3 with camera sensors to detect object for the grasping robot arm. It reached 89% accuracyfor each 3D-printed shape like sphere, cylinder, cone, and cuboid
- With ultrasonic sensor on Arduino board, learned about camera matrix to get height, width, and coordinates of thedetected object

Online Bookstore Development | Python, Flask, HTML/CSS, MySQL April 2019 – June 2019

- Team project for the web development course at Oregon State University
- Developed an online bookstore with MariaDB to learn about frontend and backend communication
- Implemented Python Flask to host database server and to manage item stocks on the bookstore

Data Analysis and Visualization with Unreal Engine | Python, Unreal Engine 4 Jan. 2019 – July 2019

- URSA Engage 2019 project with a mentor, Dr. Raffaele de Amicis
- Implemented a data visualization which converts from csv data to virtual world of Unreal Engine 4
- Explored Unreal Engine 4 to learn about AR/VR and implement data visualization

Technical Skills

- **Languages**: Python, C, C++, JavaScript
- **Web Development**: React.js, Node.js, HTML/CSS, Flask, RESTful APIs, Express, Flutter
- **Database Management**: MySQL, MongoDB, MariaDB
- **Artificial Intelligence**: Keras, Python NumPy, TensorFlow, PyTorch, Google Colab, Jupyter Notebook
- **Other Tools**: Docker, Git, VS Code, Visual Studio, Linux, Unreal Engine 4, PyQt, OpenCV, Android Studio