Darasy Reth

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Work Experience

Diversiteam, Singapore May 2019 - August 2019
Full Stack Developer (Intern)

- Led the early stages of backend development of resume parsing and good candidate evaluation platforms.
- Designed and trained machine learning models, Bidirectional Long Short-Term Memory (Bi-LSTM) and Convolutional Neural Networks (CNNs), to identify resume sections and soft skills, achieving positive accuracy rate of 90%.
- Developed an image and text recognition system for resume by designing workflow from scratch using machine learning models including Bi-LSTM, CNN, and NLP techniques in Python.
- Applied researched computer vision technique (OpenCV) and character recognition technology (OCR) to eliminate noises in various resume formats and colors.
- Implemented and maintained major features of the resume parsing to extract data from each section of the resume.
- Optimized algorithms to improve the overall resume parsing performance including both accuracy and speed performance by reducing space usage and running time to be lower than O(n^2).
- Implemented a communication platform in Python and PHP between web server and AWS EC2 via FTP and SFTP to launch resume parsing script in a short amount of time using a small hardware resource.
- Implemented and maintained support libraries and API templates in Python to extract features for good candidate evaluation from MySQL database.
- Evaluated the importance of features that is useful for collecting data and designing machine learning models including CNNs and Bi-LSTM for identifying the good candidate.

Embedded Sensing and Computing Lab, Buffalo, NY August 2018 – January 2019
Undergraduate Research Assistant

- Built a tool to extract skeleton key points from video surveillance using deep learning and IoT technology.
- Designed a deep learning model in Python to identify and to distinguish fall motion from other human activities with 95% of the positive fall detection rate.
- Evaluated and optimized the model to significantly increase the efficiency of fall detection to compute in real-time by reducing the system's complexity.
- Presented the Fall Detection project and the significance of human skeleton extraction method to the public during the Computer Science Education Week at the University at Buffalo.
- Utilized computer vision technology in Python to analyze human foot parameters including foot length, foot width, foot circumference, heel circumference, toe height, and foot back height.
- Designed algorithms to determine the foot shape of a person using Euclidean distance, circle, and ellipse circumference with at least 90% of the overall correct foot parameters' estimation.

Experiential Learning Project, Curbell Medical, Buffalo, NY August 2018 – December 2018
Software Developer and Researcher

- Designed machine learning models including K-Nearest Neighbors, Random Forest, and Convolutional Neural Networks to analyze unusual human's activities in real-time using Tensorflow and Scikit-Learn.
- Analyzed human motions' data, visualized and interpreted statistical data collected from the models and OPPORTUNITY dataset, and recommended an efficient system to Curbell Medical team.
- Led the software team in researching and developing the models to follow the project timeline.
- Collected patient's movements dataset using Arduino to feed to the models.

Education

Northeastern University, Boston, MA
Master of Science in Computer Systems Engineering - Internet of Things Expected December 2020

State University of New York at Buffalo, Buffalo, NY
Bachelor of Science in Computer Science, Bachelor of Arts in Mathematics December 2018
* Dean's List * Tau Sigma National Honor Society

Technical Skills

Programming languages: Python, Java, C, C++, R, PHP
Database and Cloud Platform: MySQL, AWS EC2
Operating systems: Linux, Macintosh, Windows