Joseph Leavitt

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Work Experience

L3 Harris Technologies — Software Engineer July 2018 - Present

- Automated maritime ship data extraction, saving 2 - 5 days of manual work per week (Python, REST, Cron)
- Applied transfer learning on neural networks using Tensorflow to train models for detecting ships and types of ships in satellite imagery (Python, NumPy)
- Augmented region proposals to cover the range of object sizes in a remote sensing data set, this change increased accurate predictions in an image with 213 ships by 67.79%, resulting in a total accuracy of 97.18%
- Improved performance of a REST API that accesses Amazon Redshift and Postgres databases containing billions of worldwide ship data points (SQL, JavaScript)
- Implemented and trained several linear regression models and a random forest regression model for an internal tool that ranks candidates based on a photo of their resume (Python, Scikit-learn, Pandas)
- Proposed a state of the art object detection and tracking project to innovation leaders at Harris. Received $45,000 in funding

SavvySuit — Software Engineer Intern May 2016 - November 2016

- Implemented a search and search filtering feature to check for conflicts of interest in a database of attorney clients using JavaScript, Polymer, and Node.js

Lockheed Martin — Software Developer Intern August 2015 - May 2016

- Developed software in C and C++ for a classified military missile program. Focused on bug fixes and refactoring

Projects

Knest — Team of 4 September 2017 - May 2018

- **Won 1st in Discipline (Computer Science)** at Florida's State-Wide Senior Design Showcase 2018
- Knest is a desktop application that uses deep learning and image processing techniques to detect birds in large sets photos and enhance them (Python, TFLearn, TensorFlow's Object Detection API, NumPy, OpenCV)
- I was responsible for implementing, training, and fine-tuning the object detection model for bird detection

Collaboard — Team of 2 January 2016

- **Won 1st place** overall at PolyHacks Hackathon. Collaboard is a web application that consists of a interactive whiteboard and chat (JavaScript, Socket.IO, Node.js with Express.js)

Class-ify — Individual project November 2015

- **Won the education award** at KnightHacks Hackathon. Class-ify is a lightweight Chrome Extension that injects Rate My Professor ratings into the UCF's class search page (JavaScript)

Skills

Languages: Python, JavaScript, HTML, CSS, Java, SQL
Frameworks and Libraries: TensorFlow, TensorFlow Object Detection API, TFLearn, NumPy, Scikit-learn, Pandas, Node.js
Tools: Git, Jupyter, Vim, Cron, Linux, Unix, AWS EC2, Amazon Redshift, Bash, WinSCP, macOS, Windows
Deep Learning/Machine Learning: Object Detection, Object Classification, Regression

- Proficient with deep convolutional architectures such as Resnet and Inception
- Proficient with object detection pipelines such as Faster RCNN and YOLOv3
- Experienced in model fine-tuning and optimization

Education

University of Central Florida 2014 - 2018
Bachelor of Science in Computer Science GPA: 3.2/4.0
Activities & Hobbies: Tech Knights, Gaming Knights, Grace Hopper Celebration Volunteer, T.A. Junior Knights, Strength Training, Esports.