Lawrence Oks

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EDUCATION

University of Central Florida, Orlando, FL   **2020-2022**
Computer Science M.S. | GPA: 3.96
Focuses: Artificial Intelligence (Computer Vision, NLP), Virtual & Augmented Reality

University of Central Florida, Orlando, FL   **2017-2021**
Computer Science B.S. | GPA: 3.7
Awards: Provost Scholarship, Burnett Honors College, Dean's List 8/8 semesters

WORK EXPERIENCE

University of Central Florida, Orlando, FL   **2017-2022**
Web Applications Developer | techrangers.cdl.ucf.edu
- Trained and mentored junior developers as they worked on a collection of full-stack projects, web platforms, and learning management system integrations
- Led a team of 2 to rapidly expand the educational widgets available on our in-house platform (materia.ucf.edu) by designing and implementing a Node.js server that hosts and integrates open-source H5P widgets
- Deployed Covid testing notifications for 60K+ students and faculty using AWS SNS and Lambda
- Converted 30% of our educational widget platform from PHP/Angular.js to React.js
- Developed the frontend for QuestionUp, a web/mobile application that allows students to anonymously post questions for professors in real time, using Vue.js
- Authored extensive technical documentation on server architecture, integration and deployment processes
- Implemented applications and features for an in-house workflow management suite using Django and Vue.js
- Gave 'tech talk' presentations on topics such as machine learning and CI/CD

Nextera Energy, Juno Beach, FL   **Summers 2019, 2020, 2021**
Software Engineer Intern
- Automated project planning process to save 800 hours/year in manual labor by introducing AI and NLP
- Implemented python automation scripts that caught when jobs were deviating from their planned costs, catching deviations as high as $1M
- Built and deployed a serverless status page to monitor the health of an internal work management tool using Cloudformation, Lambda, APIGateway, DynamoDB, RDS, IAM, and more
- Converted CI/CD platform to Github Actions for first complex project in the company, enabling an easier transition for all future projects in a company-wide move to the new platform
- Took initiative to design and lead virtual team-building activities for interns during the pandemic

Projects (view more on my portfolio website)

Real-Time American Sign Language Recognition with Object Detection, Computer Vision   **Aug - Dec 2021**
Winner: Best use of Google Cloud at KnightHacks 2021
Trained and implemented a real-time ASL alphabet recognition system built on a convolutional neural network. A preliminary step to a more accessible world for the deaf and hard-of-hearing community.

Twitter Sentiment Analysis with LSTMs, Natural Language Processing   **Jan - May 2021**
Research paper improving the mean absolute error rate of a Twitter sentiment classifier neural network, as well as applying it to a dataset of tweets from the Coronavirus pandemic to analyze the shift in trends and user behavior.

UCF React, EdTech   **Aug 2020 - May 2021**
Co-led a team of 5 to design, architect, and deploy a Classroom Response System specifically for UCF as a free alternative to monitor student engagement in real time. Wrote 100% of the serverless websocket API, 50% of the REST API and 30% of the React.js frontend for a mobile & web application scalable for 60k+ students and professors.

VR Dungeons and Dragons Platform, Virtual Reality   **Jan - May 2022**
Created an immersive virtual reality experience to play dungeons and dragons with friends using Unity and OpenXR. Players can roll dice, interact with their character sheet, place and switch into the body of their miniature on the battle map.

Augmented Reality Portfolio, Augmented Reality **Jan - May 2022**
A series of AR projects that demonstrate proficiency in concepts including tracking, situated visualization, occlusion, tangible interactions, networked collaboration and more using AR Foundation and Vuforia SDK. View here: bit.ly/3wfQvBY

AI Pacman, Artificial Intelligence **Aug - Dec 2019**
Used pacman as a platform to visualize the implementation of various AI techniques - Multi-agent search, model-based and model-free reinforcement learning, Hidden Markov Decision models, informed state-space search, Naive Bayes

PL/0 Compiler, Systems Software **Jan - Apr 2019**
Implemented a compiler in C for the high level language PL/0 into assembly code

Leinecker's Lines, Web & Mobile Application **Jan - May 2019**
Led a team of 5 to design and deploy a full-stack online game in which players use a mobile app as their fishing reel, using socket connections for real-time interaction with the website to catch fish as they swim by. Used Agile to manage project, Unity & C# for mobile development, Javascript and Socket.io for web.

Poltergeist, Game Development **Aug 2016 - Jun 2017**
Built and deployed an online multiplayer survival/horror game using Unity3D and C#. A ghost chases players around a haunted mansion attempting to reap them into the spirit world, while players can use various power-ups and tech to hide and run.

Skills & Interest

- Programming Languages: Javascript, Python, C#, Java, C, SQL (MySQL certified)
- Tools/Dev: AWS Cloud Practitioner, Git, Unity3D, Unix CLI, Docker, CI/CD, Agile, Tensorflow, Jira, Wireshark
- Web Frameworks: Node.js, React.js, Vue.js, Flask, Django
- Design: Certified in Photoshop, AutoCAD, and MasterCAM
- Interests: Love to play any and all sports (primarily soccer), multiple instruments, board games, movies