

Clayton Curry

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Norman, OK

SUMMARY

- CAREER TARGET: Software Engineer, Research Engineer, Data Analyst, Research Scientist
- One year of experience in aerospace software research from my work as an undergraduate research assistant for the US Air Force Research Laboratory's 76th Software Engineering Group
- Lifetime of experience being the person that teammates can count on by removing hurdles, working out difficulties early, taking ownership of my work, and working extended hours when needed to meet the expectations of my teammates
- Two semesters of classroom training in cloud infrastructure technology, including completion of Google Cloud Platform Codelab, AWS Academy Cloud Foundations online courses
- Eager for opportunities to learn and solve open-ended problems that push me to learn new skills, new mathematics, and new avenues to serve the needs of stakeholders

RELEVANT SKILLS

Programming Languages

Proficient: Python, C/C++ w STL, Java, HTML, CSS, JavaScript, Visual Basic for Applications

Familiar: SQLite3, R, MATLAB

Software Developing Tools

Proficient: Git, ReactJS, VSCode, Eclipse

Familiar: Jira, Tmux, Google Cloud Platform, Amazon Web Services

Machine Learning / Artificial Intelligence Tools

Proficient: Conda, Tensorflow w/ Keras, PyTorch, Pytorch Lightning, Optuna, Tensorboard, Numpy, Scikit

Familiar: Matplotlib, Plotly with Dash, PyGraph, CUDA

Miscellaneous Skills / Concepts

Proficient: Linux Command Line Interface (Bash), Database Management Systems, Geometric Deep Learning

Familiar: Vim, Tmux, Emacs

EDUCATION

The University of Oklahoma

Anticipated Graduation: Dec 2022

B.S. Computer Science

Cumulative GPA: 3.21

- **Department GPA: 3.28**

• **Classes Taken:** *Programming Structures and Abstractions in Java, Data Structures in C++, Operating Systems in C, Machine Learning in Python, Algorithm Analysis, Artificial Neural Networks & Evolutionary Computing*

Minor in Mathematics

- **Department GPA: 3.50,**

• **Classes Taken:** *Calculus (all), Abstract Linear Algebra, Abstract Algebra I (Group Theory), Numerical Analysis, Ordinary Differential Equations, Applied Statistical Methods in R*

RELEVANT EXPERIENCE

University of Oklahoma School of Computer Science | *Sensor Fusion Research Assistant*

Nov 2021 - Present

- This research was a collaborative investigation on the applications of machine learning for enhancing the functionality of point-object multi-target multi-sensor object tracking software in air space monitoring systems
- Developed and presented a Python-based web-scraper that successfully acquired more than ten-million (> 10,000,000) transponder messages (ADS-B) broadcasted from all flights in the continental United States over one march weekend
- Authored numerous original tutorials in Google Colab on object-tracking-related topics, deriving equations from first mathematical principles wherever helpful, including demonstrations of the following 6 filtering algorithms: Linear Kalman Filter, Extended Kalman Filter, JPDA Filter, Particle Filter, and PHD filter
- Developed, trained, and presented a convolutional neural network model capable of predicting the occurrence of basic flight maneuvers, given access to a set of time-indexed estimated target positions
- Implemented models once-a-week for nearly 52 weeks in Pytorch, Pytorch Lightning, Tensorboard, and Optuna ecosystems for developing models capable of distributed, hardware-agnostic training, and neuroevolutionary hyperparameter optimization
- Strategized with OU IT to setup and secure a local area network for distributed model training with export-controlled data

- Independently reproduced experiments published on the Arxiv and in conference proceedings relevant to object tracking research
- Derived non-linear filtering algorithms from first principles such as the

University of Oklahoma Department of Physics | *Linux System Administrator Asst.* *Feb 2021 - Feb 2022*

- Scripted inventory-taking and various other sysadmin tasks using Bash and SSH for remote code execution, saving weeks of labor
- Scripted all required website quality control procedures by implementing a recursive web crawler in Python, saving weeks of labor
- Migrated department website from Expressionengine to Adobe Experience Manager
- Implemented server redirection rules using regular expressions in Apache web server

Student Chapter for the Association of Computing Machinery | *President* *Aug 2020 - Sep 2022*

- Crafted topics and delivered a live presentation on the Git + GitHub ecosystem for an audience of 15 CS, physics, and math students; covering command line history, Unix programs, Git repositories, stages of a file, branches and remotes
- Hosted weekly discussions on opportunities for professional developments for peers with less experience in CS
- Strategized events with the CS department, reaching out to other clubs at OU, expanding social networks of OU students with other SACM clubs throughout the United States

Kief Leaf CBD | *Retail Sales Associate* *Jun 2019 - Jan 2020*

- Developed a complete Microsoft Excel add-in using Visual Basic for Applications for automating weekly inventory-taking procedures and generating monthly reports for state compliance

OTHER EXPERIENCE

Oklahoma Secondary Sports Association | *Basketball Referee* *Nov 2015 - Present*

- Accurate decision making enforcing rules in the game of basketball from elementary up to high school varsity levels

Student Chapter for the Association for Women in Computing | *Treasurer* *Mar 2021 - Apr 2022*

- Facilitated inter-club networking and collaboration with department joint student events

University of Oklahoma Health Sciences Center | *Student Assistant* *Mar 2020 - Feb 2021*

- Answers telephone and direct calls appropriately, greets and assists members and visitors

Reno Swim and Slide | *Head Lifeguard* *Mar 2016 - Aug 2018*

- Independently oversee lifeguard scheduling and stand rotations during daily operations and private events
- Answers telephone and direct calls appropriately, greets and assists members and visitors

AWARDS

Oklahoma State Regents' Academic Scholars Program | *Student* *8 semesters*

- Merit-based scholarship for students scoring at or above 34 / 36 on the ACT in the state of Oklahoma