Clayton Curry

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Norman, OK

SUMMARY

- CAREER TARGET: Software Engineer, Database Engineer, Research Engineer, Data Scientist, 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 a dependable teammate, capable of 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 online courses, Amazon Web Services Cloud Foundations Academy
- Hungry for opportunities to learn and solve open-ended engineering 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 investigated novel applications of machine learning in airspace monitoring systems, particularly for enhancing the functionality of existing point-object multi-target multi-sensor object tracking systems
- Developed and presented a Python-based web-scraper that successfully acquired more than ten-million (> 10,000,000) transponder messages (ADSB) broadcasted from all flights in the continental United States over one March weekend
- Developed, trained, and presented numerous machine learning models capable of using a set of time-indexed detections for one target to recognize the occurrence of basic flight maneuvers, using both transformer and convolutional neural networks
- Developed, trained, and presented a transformer neural network capable of forecasting long-term trajectories of aircrafts
- Authored numerous tutorials in Google Colab on object-tracking-related topics, deriving equations from first mathematical principles wherever helpful; gave tutorial demonstrations on the following 6 filtering algorithms: Linear Kalman Filter, Extended Kalman Filter, Joint Probabilistic Data Association Filter, Particle Filter, and PHD filter (see website)
- Implemented all models in Pytorch, Pytorch Lightning, Tensorboard, and Optuna ecosystems, often for distributed, hardware agnostic training, with hyperparameter optimization using neuroevolutionary design principles

- Strategized with OU IT to setup and secure a local area network for distributed model training with export-controlled data

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
- Facilitated migration of department website from Expressionengine to Adobe Experience Manager
- Implemented conditional URL redirection rules in Apache web server using regular expressions

Student Chapter for the Association of Computing Machinery | *President* *Aug 2020 - Sep 2022*
- Delivered a live presentation to an audience of 15 computer science, physics, and math students; hand-crafted topics included command line history, version control using Git and GitHub, Unix programs; all positive feedback
- Hosted weekly peer discussions with occasional events for professional developments
- Strategized events with the computer science department, networked with other SACM clubs throughout the United States

Kief Leaf CBD | *Retail Sales Associate* *Jun 2019 - Jan 2020*
- Developed a Microsoft Excel add-in using Visual Basic for Applications capable of automating weekly inventory-taking procedures and auto-generating monthly reports for state compliance

OTHER EXPERIENCE

Oklahoma Secondary Sports Association | *Basketball Referee / Lead Official* *Nov 2015 - Present*
- Demonstrate mastery of rules in the game of basketball and poised decision making under *strict* pressure
- Officiated over 1,000 basketball games from elementary school up to high school OSSAA varsity

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

Reno Swim and Slide | *Head Lifeguard* *Mar 2016 - Aug 2018*
- Facilitate lifeguard scheduling for approximately 75 lifeguards for daily operations and private events
- Greets and assists approximately 750 daily aquatic 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