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

TECHNICAL SKILLS

General Purpose Programming Languages / Libraries
Proficient: Python, Regex, Java, C/C++ with STL, HTML, CSS, JavaScript,
Familiar: Visual Basic for Applications, Arduino, SQLite3, R, MATLAB

Software Infrastructure / Development Tools
Proficient: Git, Conda, ReactJS, VSCode, Eclipse
Familiar: Slurm, Jira, Tmux, Google Cloud Platform, Amazon Web Services

Machine Learning Ecosystems / Theory
Proficient: Tensorflow w/ Keras, PyTorch, Pytorch Lightning, Numpy
Familiar: Optuna, Tensorboard, PyGraph, Scikit, Matplotlib, Plotly
Theory: Neuroevolution, Bayesianism, Geometric Deep Learning**,** Probabilistic Machine Learning

Miscellaneous Skills / Concepts
Proficient: Algorithm Analysis, Data Structures, Database Management Systems
Familiar: Vim, Tmux, Emacs

TECHNICAL 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 algorithms
- Individually developed and demonstrated a web-scraper for capturing real-time positional flight data from transponder messages (ADSB); recorded more than ten-million (10,000,000) data points in one March weekend from (all) flights in the continental US
- Independently reproduced experiments from state-of-art literature published on the Arxiv and conference/journal proceedings relevant to tracking algorithms; sought and gained experience in Pytorch, Pytorch Lightning, Tensorboard, and Optuna ecosystems for hardware-agnostic, distributed model training and model search using a Slurm-based university-managed supercomputer cluster
- Independently conceptualized, developed, and trained numerous machine learning algorithms capable of tasks such as recognizing the occurrence of basic flight maneuvers and forecasting long-term trajectories, given access to recent positional data
- Authored numerous tutorials in Google Colab on mathematical algorithms in object tracking software, deriving steps from first Bayesian principles wherever helpful; topics include: Linear Kalman Filter, Extended Kalman Filter, Multiple Hypothesis Tracking
- Strategized with OU IT during set-up and admin. of 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
- Migrated department website content-management-system from Expressionengine to Adobe Experience Manager

Student Chapter for the Association of Computing Machinery | *President*   *Aug 2020 - Sep 2022*
- Elected as treasurer, then subsequently president, for OU's comp. sci. student chapter for the professional society ACM
- Presented a live introductory-level workshop to an audience of 15 computer science, physics, and math students; hand-crafted topics included command line interface, unix operating systems, version control using GitHub; all positive feedback
- Hosted weekly peer discussions and occasional prof. dev. workshops

Kief Leaf CBD | *Retail Sales Associate* *Jun 2019 - Jan 2020*
- Developed and instituted a Microsoft Excel add-in using Visual Basic for Applications for 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*
- Officiated over 1,000 basketball games from elementary school up to high school OSSAA varsity
- Demonstrated mastery of rules in the game of basketball at a high school level, annually renewing certification with OSSAA
- Methodically enforced rules, often under *strict* pressure from fans, players, and coaches

Student Chapter for the Association for Women in Computing | *Treasurer* *Mar 2021 - Apr 2022*
- Facilitated inter-club networking and jointly sponsored 4 student events

Reno Swim and Slide | *Head Lifeguard* *Mar 2016 - Aug 2018*
- Advocated for approximately 75 lifeguards, coordinating work schedules, stand rotations, and weather-related accommodations
- Greeted, assisted, and triaged the needs for (up to) 350 facility guests and visitors

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***

AWARDS

Oklahoma State Regents' Academic Scholars Program | *Oklahoma Academic Scholar* *8 semesters*
- Earned full-ride scholarship to the University of Oklahoma awarded by scoring 34 / 36 on the ACT; categorical subscores: English-34, Mathematics-36, Reading-32, Science-35