Cole Terrell

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Education

Master of Business Administration, University of Kentucky Cumulative GPA: 4.0
Bachelor of Science in Computer Engineering, University of Kentucky Cumulative GPA: 4.0

Work Experience

Know-Center GmbH **May 2021 – Present**
Junior Researcher in Knowledge Visualization

- Designed and implemented state-of-the-art supervised and reinforcement learning based models in the domains of image classification, computer vision, and control policy generation.
- Formulated new metrics for deep learning model evaluation through close collaboration with colleagues. These metrics will be used to evaluate models that are currently deployed in industrial settings.
- Performed self-managed research sub-projects on topics such as model training optimization through the use of GPUs and multi-processing resulting in multiplicative reductions in lengthy training times associated with deep learning models.

Big Ass Fans **September 2020 – May 2021**
Marketing and Manufacturing Engineering Internship Rotations

- Crafted and implemented a custom *Kanban* system for the Haiku 52”/60” assembly line at the firm’s primary domestic manufacturing plant resulting in increased daily production quantity and consistency.
- Communicated complex technical information and business recommendations directly to the firm’s Chief Officers; recommendations were based on results collected from a nationwide marketing research survey that my team and I developed from scratch.
- Established strong working relationships horizontally across departments and vertically through the firm’s organizational hierarchy; this enabled the sharing of ideas from factory line workers to the firm’s upper management.

Cypress Semiconductor Corporation **August 2018 – December 2019**
Full-Time Cooperative Education Program

- Developed a strong foundational knowledge of VLSI industry-standard design and physical verification techniques. Applied mastery of these concepts by developing a training module for new hires that was distributed internationally.
- Designed a partially automated process in Ruby and SKILL for performing large-scale quality assurance tasks. These improvements saved weeks of working time for this task.
- Crafted visually appealing and descriptive documentation that was used as reference material by department managers in meetings with international colleagues. The templates I created became standard protocol within the department.

Undergraduate Research Fellowship **January 2019 – August 2019**
Low-Power Computation and Hardware Security

- Leveraged VLSI industry-standard CAD tools to design and simulate transistor-level circuits with the goal of developing novel logic families. Designs emphasized low power and area overhead as well as resilience to hardware cyber-attacks.
- Directed small groups to rigorously test designs and present research results to industry professionals.
- Developed and maintained scripts to automate schematic-based simulations using Ruby, BASH scripting, and SKILL.

Research Works

Approximate Adder Circuits Using Clocked CMOS Adiabatic Logic (CCAL) for IoT Applications **January 2020**

- Presented at the IEEE Conference on Consumer Electronics (ICCE), Las Vegas.
- Proposes a novel logic family that combines cutting-edge adiabatic and approximate computing techniques for considerable savings in both power and area metrics for arithmetic circuits.
- Recipient of the University of Kentucky Electrical and Computer Engineering Undergraduate Research Fellowship.

Relevant Projects

Hardware

- Reversible, Pipelined "Ahead x About Face" CPU Architecture
    - A CPU architecture that features an instruction set containing fully-reversible instructions with the benefit of enabling unrestricted (no locking mechanisms) transactional memory between multiple cores.

Software

- OpenAI Gym Reinforcement Learning Tasks
    - Multiple Python/PyTorch based scripts that implement cutting-edge reinforcement learning algorithms such as Q-learning and actor-critic methods.
- Twitch and Python-based Clinical Ophthalmology Telemedicine
    - Fully-functional telemedicine interface that streams 4K video of the view from an ophthalmology clinic's slit lamp for use in medical education applications. This is done using OpenCV and a Python Flask microserver.