**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.