Katy Williams

(919) 986-1344, kawilliams@email.arizona.edu, Apex, NC

EDUCATION

University of Arizona   Tucson, AZ
PhD student in Computer Science (resuming August 2021)   *August 2017 – May 2020*
- GPA: 3.44/4.0
- Research interest: visualization of performance data from high-performance computers

Master's Degree in Computer Science   *Received December 2019*

Davidson College   Davidson, NC
Bachelor of Science in Computer Science, Minor in Mathematics   *May 2017*
- GPA: 3.24/4.0
- Relevant Courses: Analysis of Algorithms, Machine Learning, Concurrent and Parallel Computing, Computer Organization, Database Systems, Mathematical Modeling, Data Visualization, Numerical Analysis

WORK EXPERIENCE

YMCA of the Triangle Area Swim Team   Raleigh, NC
Assistant Age Group Swim Coach   *August 2020 - present*
- Coach 31 swimmers from age 5 to 15 by writing and leading daily swimming practices and strength workouts
- Communicate feedback and encouragement to the swimmers based on their age and ability

Lawrence Livermore National Lab   Livermore, CA (remote)
Computing Scholar Intern   *June – August 2020*
- Built the custom, interactive, call tree visualization Roundtrip to be used in Jupyter notebooks with the Python library Hatchet to aid performance analysis of scientific simulations
- Worked remotely with the Hatchet team to develop the user workflow for program performance analysis in Jupyter notebook

Great Harvest Bread Co.   Cary, NC
Manager of Customer Service Representatives   *March - May 2020*
- During the pandemic, restructured the online order system, in-house order filling, and curbside customer flow
- Directed up to 5 employees at a time as "point guard": the person at the center of customer orders and bread supply who keeps tabs on the current inventory, when fresh bread will be ready, which orders are coming in and which orders are getting picked up

TRAVELER   University of Arizona
Graduate Research Assistant   *August 2017 – May 2020*
- Created usable, interactive tree diagrams for the Phylanx development team to analyze and compare program runtime and performance
- Iteratively interacted with the high-performance computing researchers at University of Louisiana and University of Oregon to analyze visualization needs and design useful trees

SwimNerd   Virginia Beach, VA
Intern: Web Developer   *May – August 2019*
- Developed swimnerd.com, a recruiting database for prospective collegiate swimmers to see how their best times compare at a division, conference, and team level
- Refined both the frontend and backend interfaces with HTML, PHP, and MySQL code for a better user experience

Indigo Park Swim Team   Williamsburg, VA
Head Coach   *May 2017 - August 2017*
Assistant Coach   *May - August 2018, 2019*
- Coached, organized daily practices, and developed meet line-ups for approximately 50 age-group swimmers
- Developed teamwork skills in young athletes during weekly meets by encouraging support and sportsmanship
- Communicated with board members and parents to organize team activities and administrative issues

Project PRONTO   Davidson, NC
Member of Student Web Application Developer Team   *May 2016 – Aug 2016*
- Selected as a member of Project PRONTO (Productive Online Tools), a team of 3 student programmers that build web applications using Flask to help streamline processes at Davidson College and in the community
- Delegated parts of projects to suit team members' skills and coordinated the integration of distinct pieces into the final product
- Interacted with ITS, the Professional Affairs Committee, and peers to critique tools during development phase of each tool

- Built several applications for the college's use including FindACourse, an aid for students and advisors that combines campus resources into one tool for finding courses by querying the college's SQL database based on the user's parameters (i.e. class time, professor, department, etc.)

Student Web Application Developer   *May 2015 – August 2015*
- Learned how to develop web-based tools and increased programming abilities under the guidance of Dr. Laurie Heyer, with the result of engineering several tools for campus and community partners, such as the Charlotte Community ToolBank
- Presented the Order Helper to Charlotte Community ToolBank board of directors, which is an application for volunteers to determine the most efficient way to collect tools for an order, saving the non-profit's time

LEADERSHIP

Davidson College Swimming and Diving Team   Davidson, NC
Captain and Member   *August 2013 - February 2017*
- Lead a team of 24 athletes while serving as an intermediary between the team and the coaching staff
- Emphasize a team culture of confidence and embracing challenges through competition
- Balance an intense workload with high-caliber swimming throughout the school year and through the summer, resulting in qualifying for Olympic Trials in two events while working 40 hours/week in a research setting

FICSIT (Females in Computer Science and Information Technology)   Davidson, NC
Co-President and Founder   *January 2016 - May 2017*
- Co-founded FICSIT, a club with the goal of providing a comfortable space for female programmers to foster out-of-classroom learning experiences and to encourage creativity and exploration in the computer science community
- Lead tutorials for new programmers, decide on new projects for the club, and organize out-of-club activities such as a trip to PearlHacks, an all-female hackathon at UNC-Chapel Hill
- Promoted club with a kick-off how-to-code informational session that expanded club membership from 6 to 20 members

Athlete Leadership Program   Davidson, NC
Member   *September 2015 – December 2015*
- Selected by head coach and met weekly with high-potential student-athletes under the guidance of Sandor Helfgott (Director of Physical Education and Campus Recreation) across Davidson sports teams to prepare for lives of leadership and to develop skills as leaders on- and off the field
- Developed a leadership philosophy that emphasizes self-discipline and confidence, informing future role as captain

SKILLS

- Programming languages: Python, JavaScript, d3, HTML, CSS, Java, C++, PHP, SQL, MySQL
- Applications: Jupyter Notebook, Docker, MatLab
- GitHub: kawilliams