

BLAKE ELLIS CAPELLA

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EDUCATION

THE COLLEGE OF NEW JERSEY (TCNJ)
Bachelor of Science in Electrical Engineering
Minor in Physics

- **GPA:** 3.91/4.00

EWING, NJ
May 2020

UNIVERSITY OF NEWCASTLE
Exchange Program

- **Courses:** Linear Control and Estimation, Advanced Electromagnetism, Electric Machines and Power Systems, Signal Processing

NEWCASTLE, AUSTRALIA
Spring 2019

RESEARCH EXPERIENCE

INTELLIGENT MEDIA PROCESSING LABORATORY
Student Research Assistant

EWING, NJ
October 2017 – May 2019

- Orchestrated collaboration between machine learning and embedded design teams.
- Outlined plans for an embedded system capable of using computer vision programs and machine learning classifiers while simultaneously controlling an RC Rover.

CARNEGIE MELLON UNIVERSITY
Human Computer Interaction Institute REU Student

PITTSBURGH, PA
May 2018 – August 2018

- Spearheaded a design project investigating the potential benefits of machine learning classifiers on full-body exercise classification by defining experimental procedures for data collection, formulating a novel dataset, performing literature reviews, developing classification models and algorithms, and drafting a paper.

PRESENTATIONS & PUBLICATIONS

CARNEGIE MELLON UNIVERSITY
Human Computer Interaction Institute REU
Published on Carnegie Mellon University's Kilthub

PITTSBURGH, PA
May 2018 – August 2018

- B. Capella, D. R. Subramanian, R. Klatzky, and D. Siewiorek, "Action pose recognition from 3D camera data using inter-frame and inter-joint dependencies," Figshare, 2019. Available: 10.1184/R1/7999361.v2
- B. Capella, D. R. Subramanian, R. Klatzky, and D. Siewiorek, "3D Kinect Total Body Database for Back Stretches." Figshare, 2019. Available: 10.1184/R1/7999364.v2

SKILLS

Programming Languages:

- Python, C, C++, Java, ARMv7, Verilog HDL, MATLAB

Development Tools:

- Simulink, LabVIEW, Xilinx Vivado, PSpice, LaTeX, Microsoft Office

WORK EXPERIENCE

THE BONNER INSTITUTE FOR CIVIC AND COMMUNITY ENGAGEMENT EWING, NJ

Bonner Community Scholar

- During the semester, spent over ten hours a week working in small teams with community non-profits or at leadership training events to build nonprofit service capacity, focusing on social issue areas.

Environment Team Intern

August 2019 – Present

- While an active student, performed a literature review on academic, non-government organization, and intergovernmental publications on the intersectional impact of animal agriculture on the natural environment.
- Worked with the Environmental Sustainability Council faculty, staff, and peer representatives to draft the campus' formal sustainability plan and outline actions to reduce carbon emissions.

General Member, AmeriCorps Member

August 2016 – July 2019

- Organized and facilitated workshops for over 200 first year students on civic activism in addition to leading the same students on day-long community-based learning experiences at various locations around central New Jersey and Trenton.

SENIOR DESIGN PROJECT

EWING, NJ

Webmaster, Electrical Engineer

August 2019 – Present

- Part of an interdisciplinary, four-man team to design and implement a cost-efficient and reliable temperature control system capable of meeting strict medical device design constraints to apply cyclical cooling and heating to a localized area.
- Responsible for system identification and simulation, system architecture, digital logic Controller and process controller design and simulation, circuit design, and device Assembly.

MAYO BUSINESS PLAN COMPETITION

EWING, NJ

Electrical Engineer

November 2019 – Present

- Research and design an embedded device equipped to inform first responders during emergency medical situations such as stroke, alcohol poisoning, or allergies.
- Work alongside public health and finance students to draft a business plan targeted at academic and healthcare institutions.

PENNAPPS XVIII

PHILADELPHIA, PA

University of Pennsylvania

September 7-9, 2018

- Participated in one of the nation's largest competitions for top STEM students.
- Within 48 hours, directed a small team during the creation of a fully functional information based medical emergency assistant on an embedded platform.

DEPARTMENT OF DEFENSE

FREDERICK, MD

Gains in Education Math and Science (GEMS), Near Peer Mentor

Summer 2017

- Coached a classroom of middle and high school students in problem-solving and computer science. Supplying individualized guidance, students were able to create robots capable of solving diverse set of problems.

REGAL ENTERTAINMENT GROUP*Floor Staff*

FREDERICK, MD

August 2015 – Present

- Facilitated food preparation and sales, ticket reception, and cleaning part time during winter and summer semester breaks.
- Employee of the Month for November 2015.

HONORS, AWARDS, AND AFFILIATIONS

PHI KAPPA PHI*Member*

EWING, NJ

*May 2019 – Present***TAU BETA PI***Tau Beta Pi Scholar**Member*

EWING, NJ

*May 2019**August 2018 – Present***THE COLLEGE OF NEW JERSEY***Armstrong Scholar**6 Time Dean's List Recipient*

EWING, NJ

*August 2018**August 2016 – Present***INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE)***Member*

EWING, NJ

August 2016 – Present