

Detravious Jamari Brinkley

<https://github.com/Brinkley97>

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Interests: Data Science, Machine Learning, Time Series

EDUCATION

- **University of Southern California (USC)** Los Angeles, CA
Master of Science in Computer Science (CS) Aug. 2021 – Current
- **Claflin University (CU)** Orangeburg, SC
Bachelor of Science in Computer Science (CS) Aug. 2016 – Nov. 2020

RESEARCH EXPERIENCE

- **Yolanda Gil, Knowledge Capture And Discovery** Information Sciences Institute
Graduate Student Researcher Feb 2022 – Present
 - Create the Tereatha Grant Nwankwo (TGN10+) system by reproducing an original study that consists of a multivariate dataset of 113 nurses with demographic, behavioral, psychological, and physiological variables.
 - Implement statistical analyses (t-test, ANOVA, linear regression) using Python, R, Pandas, NumPy, SciPy, and rpy2 to understand the significance of a sub population and to make predictions on variables.
 - Design and integrate TGN10+ with the an automated workflow system called DISK that utilizes tools such as Protege, Docker, and Workflow INstance Generation and Specialization (WINGS), GitHub Actions.
 - **This project resulted in a paper in submission (See [1, 2] in PUBLICATIONS):**
- **Deidra Morrison Wells, CS and Shannon Smith, Chair of Nursing** Claflin University
Undergraduate Student Researcher Feb 2022 – Present
 - Investigated usage amount in a specific native software application for 26 participants to find similar-minded fitness partners and measured fitness activity of their choice.
 - Employed 8 surveys with some questions coming from The Theory of Planned Behavior and selected questions to understand exercise habits, motivations, and how having a partner plays a role.
- **Deidra Morrison Wells, CS and Shannon Smith, Chair of Nursing** Claflin University
Undergraduate Student Researcher Feb 2022 – Present
 - Surveyed 6 participants by employing the User Experience Questionnaire for my progressive web application (HTML, CSS, Python, and Django) called AccountaFitBuddy – find nearby fitness partners.
 - 66.7% of the participants found the current version of the app to be motivating and would likely use an updated version if updated to recommended changes.
- **Joshua Sherfield, Domingo Colon** Lawrence Livermore National Laboratory
Undergraduate Student Researcher Feb 2022 – Present
 - Streamlined interacting with NeMS (a software-based network mapping tool developed in-house) by replacing command line usage with an easy-to-use GUI created with HTML, CSS, Python, and Flask.
- **Drew Endy, Endy Lab** Stanford University
Undergraduate Student Researcher Feb 2022 – Present
 - Used Python and the Biopython library to interact with the UniProt protein database.
 - Performed bioinformatic search of the UniProt database to find functional proteins that are encoded using a reduced set of amino acids.
 - **This project resulted in a paper in submission (See [3, 4] in PUBLICATIONS):**
- **Belinda Wheeler, English** Claflin University
Undergraduate Student Researcher Feb 2022 – Present
 - Polled 164 students and interviewed 19 business owners, managers, and community leaders from various organizations in Orangeburg County for their feedback on enhancing the quality of living.
 - **One of the oral presentation winners during Claflin's Annual Research Day):**

PUBLICATIONS

1. **Brinkley D**, Johnson E, Feng T, Gil Y (2023). Reproducibility as a Stepping Stone to Intelligent Assistants for Data Analysis: An Analysis of Physical Activity, Sleep, and Work Shift in Nurses. Association for Computing Machinery Intelligent User Interfaces Open Science (Accepted) Available here and doi: <https://doi.org/10.1145/3581754.3584173>
2. “Reproducibility as a Stepping Stone to Intelligent Assistants for Data Analysis: An Analysis of Physical Activity, Sleep, and Work Shift in Nurses.” **Detravious J. Brinkley**, Emmanuel Johnson, Tiantian Feng, and Yolanda Gil. Technical Report ISI-TR-741, Information Sciences Institute, University of Southern California, Marina del Rey, CA, 90202. November 2022. Available here: <https://www.isi.edu/results/technical-reports/>.
3. Calles J, Justice I, **Brinkley D**, Garcia A, Endy D (2019). *Fail-safe genetic codes designed to intrinsically contain engineered organisms*. Nucleic Acids Research (Accepted) doi: <https://doi.org/10.1093/nar/gkz745>
4. Calles J, Justice I, **Brinkley D**, Garcia A, Endy D (2019). *Synthetic Genetic Codes Designed to Hinder Evolution*. bioRxiv doi: <https://doi.org/10.1101/695569>

INDUSTRY EXPERIENCE

Catalyst Robotics, Co-Founder

April 2021 - Present

- **FaceMirror**: Develop a full suite of tools for preventative health screenings where we measure pulse-oximetry, blood pressure, and body temperature via the camera sensor.
- **Autonomous Navigation**: Implement computer vision techniques (object detection, object tracking, semantic segmentation) for robot perception.

PROJECTS

- **Deep learning for time series prediction**: Forecast Yahoo Finance stocks utilizing various techniques - Time Series (AR, MA, ARMA, ARIMA) and ML/DL (MLP, CNN, LSTM)

PROGRAMMING SKILLS

- **Languages**: Python, R, HTML, CSS, Java **Libraries and Packages**: pandas, statsmodels, NumPy, scikit-learn, Keras, SciPy, rpy2, OpenCV, Django, Flask

FELLOWSHIPS, SCHOLARSHIPS, AWARDS

- GEM Fellow 2021 (\$80,000) Fall 2021 - Present
- Alice Carson Tisdale Honors College Scholarship (\$42,000) Fall 2017 - Fall 2020
- Intel Scholars Program and Scholarship (\$5,000) Fall 2020
- Claflin University - Claflin Carolina Cluster Career Pathways Initiative (\$2,400) Summer 2020
- Claflin Consortium Enabling Cybersecurity Opportunities and Research (\$5,000) Summer 2019
- The Leadership Alliance Summer Research Early Identification Program (\$2,000) Summer 2018
- South Carolina Independent Colleges and Universities (\$2,000) Apr 2017 - Jan 2018
- President's List (CU) 2 Semesters
- Dean's List (CU) 5 Semesters
- Honor Role (CU) 2 Semesters
- Campus Honoree for the South Carolina Student Service Achievement Award Fall 2018
- Certification from the BB&T Emerging Leaders program Fall 2017
- Inducted to Sigma Nu Tau Entrepreneurship Honor Society Fall 2017

LEADERSHIP AND SERVICE

- **Corporal, United States Marine Corps – Fox Company 4th LAR Eastover, SC** Guided 14 Marines in tandem with our platoon sergeant to achieve Commander's intent by ensuring job proficiency and upkeep of physical fitness while engaging in self-discipline and transferable skills.

- **Organizations:** (1) National Society of Black Engineers (NSBE): CU Chapter Vice President and Pre-College Initiative Chairperson, (2) National Association for the Advancement of Colored People (NAACP): CU Mister NAACP, (3) Connected! Men's Empowerment: HBCU Recruitment, (4) NSBE Founder Archive Collection Team (FACT), (5) Claflin Men 100