

Detravious Jamari Brinkley

<https://github.com/Brinkley97>

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Interests: **Time Series, Machine Learning, Data Science**

EDUCATION

- **University of Southern California (USC)** Los Angeles, CA
Master of Science in Computer Science (CS), 3.0 GPA Aug. 2021 – Current
- **Clafin University (CU)** Orangeburg, SC
Bachelor of Science in Computer Science (CS), 3.75 GPA Aug. 2016 – Nov. 2020

RESEARCH EXPERIENCE

- **Yolanda Gil, Knowledge Capture And Discovery** Information Sciences Institute at USC
Graduate Student Researcher Feb 2022 – Aug 2023
 - Created the Tereatha Grant Nwankwo (TGN10+) system by reproducing an original study consisting of a dataset of 113 nurses with demographic, behavioral, psychological, and physiological variables.
 - Implemented statistical analyses (t-test, ANOVA, linear regression) utilizing Python, R, pandas, NumPy, SciPy, and rpy2 to understand significance of a sub population and to make predictions on variables.
 - Designed and integrated TGN10+ with an automated workflow system called DISK-incorporates tools such as Protege, Docker, and Workflow INstance Generation and Specialization, GitHub Actions.
 - **Spearheading project resulted in two submitted papers (See [1, 2] in PUBLICATIONS)**
- **Deidra Morrison Wells, CS and Shannon Smith, Chair of Nursing** Clafin University
Undergraduate Student Researcher Feb 2019 – Jul 2021
 - Applied data and statistical analysis techniques to investigate user engagement within a specific native software application, examining preferences of 26 participants seeking like-minded fitness partners.
 - Employed 8 polls, incorporating questions rooted in The Theory of Planned Behavior. Specifically curated questions aimed at extracting insights into participants' exercise habits, motivations, and influence of having a fitness partner.
- **Deidra Morrison Wells, CS and Shannon Smith, Chair of Nursing** Clafin University
Undergraduate Student Researcher May 2020 – Jul 2020
 - Conducted a comprehensive survey utilizing the User Experience Questionnaire for 'AccountaFitBuddy,' a web application I designed harnessing HTML, CSS, JS, Python, Django, and Amazon S3 to connect individuals with nearby fitness partners.
 - Surveyed 6 participants, resulting in 66.7% expressing motivation with current version and expressing interest in utilizing an updated version based on recommended changes.
- **Joshua Sherfield, Domingo Colon** Lawrence Livermore National Laboratory
Undergraduate Student Researcher May 2019 – Jul 2019
 - Streamlined interacting with NeMS (a software-based network mapping tool engineered 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 Jul 2018 – Aug 2018
 - Performed bioinformatic search (with Python and the Biopython library) of the UniProt database to identify functional proteins that are encoded with a reduced set of amino acids.
 - **Substantiating project resulted in two submitted papers (See [3, 4] in PUBLICATIONS)**
- **Belinda Wheeler, English** Clafin University
Undergraduate Student Researcher Apr 2017 – Jan 2018
 - Executed a data-driven research initiative in Orangeburg County, leveraging advanced survey methodologies to poll 164 students and conducted in-depth interviews with 19 business owners, managers, and community leaders.

- Applied data and statistical analysis methods to extract meaningful insights, contributing to strategic decision-making for community development.
- **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: Recreating a Study of Physical Activity, Sleep, and Work Shift in Nurses
Association for Computing Machinery at the Intelligent User Interfaces Conference
PDF
2. **Brinkley D**, Johnson E, Feng T, Gil Y (2022)
Reproducibility as a Stepping Stone to Intelligent Assistants for Data Analysis: An Analysis of Physical Activity, Sleep, and Work Shift in Nurses
Technical Report at USC Information Sciences Institute
PDF
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 Journal
PDF
4. Calles J, Justice I, **Brinkley D**, Garcia A, Endy D (2019)
Synthetic Genetic Codes Designed to Hinder Evolution
bioRxiv
PDF

INDUSTRY EXPERIENCE AND PROJECTS

- **Time series, Project:** Build a system to analyze and forecast Yahoo Finance stocks, airline passengers, and other types of data utilizing various techniques - Time Series (AR, MA, ARMA, ARIMA) and ML/DL (MLP, CNN, LSTM).
- **Catalyst Robotics, Co-Founder:** Research and devise a full suite of tools for preventative health screenings where we measure pulse-oximetry, blood pressure, and body temperature via the camera sensor. Using Python, pandas, NumPy.
- **Catalyst Robotics, Co-Founder:** Implement computer vision techniques (object detection, object tracking, semantic segmentation) for robot perception. Using Python, NumPy, OpenCV.

PROGRAMMING SKILLS

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

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** Led 14 Marines to achieve mission success through job proficiency and physical fitness, resulting in performance improvement. Acquired transferable skills (ie: communication, adaptability, self-discipline, etc) for enhanced team versatility.
- **National Society of Black Engineers (NSBE) Founder Archive Collection Team (FACT)**
Collaborate with one of the NSBE Founders and team to review historical founding documents. Seek to improve web archive interface with accurate information, a more friendly user design, a robust searching algorithm, and additional features.
- **Chapter Vice President and Pre-College Initiative Chairperson, CU (NSBE)** Guided a chapter of 20 members, coordinating executive board meetings and organizing diverse events such as coding workshops and hackathons for general body members and K-12 students.