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Favour Nerrise

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Stanford University, Department of Electrical Engineering 
Brains in Silicon Lab 

Education

2021 – Now	PhD Student in Electrical Engineering Stanford University, <i>Stanford, CA</i> Advisor: Kwabena Boahen, PhD. Focusing on brain-inspired 2D to 3D neuromorphics.
2016 – 2021	BS in Computer Science and Mathematics University of Maryland, College Park (UMD), <i>College Park, Maryland</i> Minors: Global Engineering Leadership and Arabic

Research Experience

Summer 2021 – Present	Research Assistant, Brains in Silicon Lab Stanford University, <i>Stanford, CA</i> Using brain-inspired theory to simulate large-scale dynamic neural networks via graph theory under the mentorship of Kwabena Boahen, PhD.
Summer 2021	Research Intern, USC REU Program-CPS VIDA Lab University of Southern California, <i>Virtual</i> Developing mathematical models to represent the probability of error in RNNs under the mentorship of Xin Qin and Jyotirmoy Vinay, PhD.
Summer 2021	Research Intern, ASU SenSIP REU Program-Save the Turtles Arizona State University, <i>Virtual</i> Building a behavior recognition system for sea turtle behavior to augment warning signals under the mentorship of H. Seckin Demir, Sule Ozev, PhD, and Jennifer Blain Christen, PhD.
Nov. 2019 – May 2021	Research Assistant, Battle Data (BAD) Lab University of Maryland, College Park, <i>College Park, MD</i> Developed a scalable visualization recommendation system classifier to optimize real-time visual explorations and analysis under the mentorship of Leilani Battle, PhD.
Oct. 2020 – Dec. 2020	Research Assistant, NASA Harvest x UMD Geosciences Department University of Maryland, College Park, <i>College Park, MD</i> Trained an LSTM to estimate area planted, crop classification, production, and yield in Mali under the mentorship of Hannah Kerner, PhD.
Nov. 2019 – Sep. 2020	Research Assistant, NASA JPL x UMD Geosciences Department University of Maryland, College Park, <i>College Park, MD</i> Implemented dimensionality reduction and novelty detection algorithms on image data to detect novel geology for Mars Science Laboratory and Mars 2020 missions under the mentorship of Hannah Kerner, PhD and Kiri Wagstaff, PhD.
Summer 2020	Machine Learning Intern, AI Research for Intelligence Community Challenges University of Maryland, College Park, <i>College Park, MD</i> Built a state of the art predictive agent-based model to forecast North Atlantic hurricane trajectories and intensities with 83% accuracy under the mentorship of Michelle Bensi, PhD.
Summer 2019	Machine Learning Intern, Leidos Innovation Center R&D Leidos, <i>Arlington, VA</i> Created scalable CNNs to detect and filter unusable utility transformer images under the mentorship of Weicheng Shen, PhD.

Jan. 2018 – Jul. 2018	Research Scholar, First-Year Innovation & Research Experience (FIRE) University of Maryland, College Park, <i>College Park, MD</i> Conducted pre-processing for EEG data using signal processing and statistical parametric mapping.
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Publications

Wagstaff, Kiri L, Francis, Raymond, Kerner, Hannah, [...], **Nerrise, Favour**, et al. **Sept. 2020**. “[Novelty-driven onboard targeting for Mars rovers](#).” In: *Proceedings of the International Symposium on Artificial Intelligence, Robotics and Automation in Space (I-SAIRAS)*.

Presentations

Talks

Nerrise, Favour. Oct. 2020. [A Rookie Playbook for ML Beginners](#). Talk. TWIMLfest. Virtual.

Nerrise, Favour. Dec. 2020. [Rewards or Punishments: A Human-centered approach to Reinforcement Learning](#). Talk. Women Who Code CONNECT. Virtual.

Conference Proceedings and Presentations

Nerrise, Favour. May 2021. “[Predictive Agent-Based Modeling of Natural Disasters Using Machine Learning](#).” In: *Proceedings of the AAAI Conference on Artificial Intelligence*, pp. 15976–15977.

Drake, Arthur, **Nerrise, Favour**, Kaplitz, Emily, et al. **Dec. 2020.** “[Machine Learning-assisted Agent-Based Modeling for Hurricane Track Prediction](#).” In: *American Geophysical Union Fall Meeting Abstracts*. Virtual: American Geophysical Union (AGU).

Nerrise, Favour, Kerner, Hannah Rae, Wagstaff, Kiri, et al. **Dec. 2020.** “[Evaluation of Machine Learning Methodologies for Novelty-based Target Selection in Planetary Imaging Data Sets: Examples from the Mars Science Laboratory Mission](#).” In: *American Geophysical Union Fall Meeting Abstracts*. Virtual: American Geophysical Union (AGU). DOI: doi.org/10.1002/essoar.10507141.1.

Honors and Awards

2021		Stanford Graduate Fellowship
2021		Stanford EDGE Fellowship
2021		Stanford NeuroTech Training Program Fellowship
2018		Benjamin A. Gilman International Scholarship
2017		Forbes 30 Under 30 Scholar
2017		Regina Lightfoot Awardee, Maryland Higher Education Commission
2016 - 2021		Honors College, University of Maryland-College Park

2016 - Present | **Gates Millennium Scholar, UNCF and the Gates Foundation**

Teaching and Mentorship

Spring 2019	Terrapin Teacher University of Maryland, College Park, <i>College Park, MD</i> Developed and taught project-based science and math lessons in a local elementary school using the UTeach model of Inquiry-based learning.
Jan. 2018 – Jul. 2018	Academic Peer Mentor University of Maryland, College Park, <i>College Park, MD</i> Supervised 50+ lab students on EEG and fMRI analysis projects.

Leadership and Service

2021 – Present	National Chairperson, National Society of Black Engineers (NSBE) Previously Region II Chairperson, Region II Finance Chair & Treasurer, UMD Chapter President, & UMD Chapter Finance Chair
2019 – 2021	Women in Engineering Student Advisory Board (WIESAB) University of Maryland, College Park, <i>College Park, MD</i>
2018 – 2020	Undergraduate Student Affairs Representative, UMD Senate University of Maryland, College Park, <i>College Park, MD</i>
2018 – 2019	Vice President, Terp Toastmaster's University of Maryland, College Park, <i>College Park, MD</i>
2017 – 2018	Director of Shared Governance, Student Government Association (SGA) University of Maryland, College Park, <i>College Park, MD</i>

Technical Skills

Scripting: R, Python, MATLAB, C, JavaScript

Data Analysis: Tableau, Excel, Gephy, OpenRefine, SQL

Tools: Jupyter Notebook, Colab Pro, AutoCAD, Azure, AWS, Github, MS Office, NetLogo, CubeMX

Hardware: RaspberryPi, Arduino, STM32

Data Visualization: Python/matplotlib, R/ggplot, Illustrator

Markup: L^AT_EX, RMarkdown

OS: Linux, Windows, MacOS

Spoken Languages

English: Native

French: Native

Arabic: Intermediate