CONTACT   Email: whitev4@wwu.edu   Website: vivianwhite.github.io   LinkedIn: linkedin.com/in/vivian-white

RESEARCH INTERESTS

I am a computer scientist with a focus on **computational neuroscience** and **machine learning theory**. I am interested in collaborative and interdisciplinary approaches to deepen our scientific understanding of *how* and *why* neural networks work.

PUBLICATIONS

3. **V White**, M Chaudhary, G Wolf, G Lajoie, KD Harris. Learning Stochastic Rainbow Networks. NeurIPS Workshop on Scientific Methods for Understanding Deep Learning, 2024.

2. **V White**, A White, J Wild, T Nguyen, F Huang. Human Error Scenario Analysis of Software Defects. ISSRE Workshop on Human Factors for Software Dependability, 2024.

1. **V White**, M Chaudhary, G Wolf, G Lajoie, KD Harris. Learning and Aligning Structured Random Feature Networks. ICLR Workshop on Representational Alignment, 2024.

EDUCATION

Western Washington University, Bellingham, Washington.
· M.S., Computer Science, expected June 2025
· B.S., Computer Science, June 2024, GPA **3.78**/**4.00**
   · Minors in Mathematics and Honors Interdisciplinary Studies

GRANTS AND AWARDS

Graduate
· Dean J. Alan Ross Travel Fund Award, WWU, 2024
· CS Graduate Fellowship, WWU, 2024
· Graduate Recruitment Tuition Waiver, WWU, 2024

Undergraduate
· Outstanding Undergraduate in Computer Science, WWU, 2024
· 1st-place award for CS poster presentation, ERN Conference, 2024
· Barbara Ellen Maguire-Veith Family Scholarship, WWU, 2023
· IN-BIC Fellow, 2023
· Lars and Elaine Giusti Scholarship for Computer Science, WWU, 2022
· Computer Science/Math Distinguished Scholar Award, WWU, 2020-2023
· Western Foundation Distinguished Scholar Award, WWU, 2020
· Merit Scholarship, WWU, 2020
· Admissions Achievement Award, WWU, 2020
· Admissions Annual Scholarship, WWU, 2020
· Scholarship Award, WSECU, 2020

RESEARCH EXPERIENCE

Computational Neuroscience Research Assistant, WWU, June 2022–present
· Advised by Dr. Kameron Decker Harris studying more interpretable models of learning in neural networks trained for vision tasks
· Developed structured random feature networks with learnable weight covariances and deep stochastic rainbow networks
· Presented findings at multiple national and international conferences and workshops
· Published papers to the 2024 ICLR Workshop on Representational Alignment and NeurIPS Workshop on Scientific Methods for Understanding DL

Human Errors in Software Engineering Research Assistant, WWU, Sept 2023–June 2024
· Advised by Dr. Fuqun Huang studying root causes of human errors behind programming defects
· Led a team analyzing cognitive roots of 120 software defects from six open-source repositories
· Published paper to the 2024 ISSRE Workshop on Human Factors for Software Dependability

Research Intern at Mila - the Quebec AI Institute, Montréal, QC, July–Sept 2023
· Advised by Dr. Guy Wolf and Dr. Guillaume Lajoie studying learnability in structured random feature networks during my IN-BIC fellowship
· Active member of two graduate research labs
· Funded by grant from International Network for Bio-Inspired Computing (IN-BIC) through NSF AccelNet program (2019976)

Computer Vision Research Assistant, WWU, April 2021–March 2022
· Worked with Dr. Scott Wehrwein on international borders project applying machine learning techniques to international border legibility tasks
· Web scraped satellite images of international borders using Bing Maps API
· Gained skills reading computer vision research papers and collaborating effectively on a team

RESEARCH TALKS   *Learning and Aligning Structured Random Feature Networks*
· NeuroAI Workshop, University of Oregon, Eugene, OR, Aug 2024
· Hutchinson ML Research Group, Western Washington University, Bellingham, WA, June 2024

Unveiling the Cognitive Roots: Human Error Scenario Analysis of Software Defects
· Senior Project Symposium, Western Washington University, Bellingham, WA, May 2024

Randomized Scattering Convolutional Networks
· Bonner Lab, Johns Hopkins University, virtual, Sept 2023
· RAFALES Lab, Mila, Montréal, QC, Aug 2023
· Neuro-AI Computations Research Group, Mila, Montréal, QC, Aug 2023

POSTER PRESENTATIONS   *Learning and Aligning Structured Random Feature Networks*
· CoNectome Symposium, University of Washington, Seattle, WA, May 2024
· Scholars Week, Western Washington University, Bellingham, WA, May 2024
· ICLR Workshop on Representational Alignment, Vienna, Austria, May 2024
· NSF Emerging Researchers National (ERN) Conference, Washington DC, Mar 2024

Randomized Scattering Convolutional Networks
· DeepMath Conference, Johns Hopkins University, Baltimore, MD, Nov 2023
· NeuroAI Workshop, Mila, Montréal, QC, Oct 2023
· NSF S-STEM Scholars Meeting, Washington DC, Sept 2023
· Scholars Week, Western Washington University, Bellingham, WA, May 2023
· NeuroAI Seattle, University of Washington, Seattle, WA, Sept 2022

TECHNICAL SKILLS   Programming languages: Python (PyTorch, numpy, pandas, scikit-learn), Java, C

Computer systems: Linux, LaTeX, git, cluster environments

REFERENCES   **Kameron Decker Harris**
Assistant Professor, Department of Computer Science, Western Washington University
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Guillaume Lajoie
Associate Professor, Department of Mathematics and Statistics, Université de Montréal
Core Academic Member, Mila
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