Chase J. Sakitis, PhD Candidate

Marquette University
Klinger College of Arts & Sciences
Department of Mathematical and
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Researcher in fMRI Analysis Lab

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Education

2021-present **Ph.D. in Computational Sciences**, *Marquette University*, Milwaukee, WI (Expected 5/2024)

2020-2020 **M.S. in Applied Statistics**, *Marquette University,* Milwaukee, WI

2014-2018 **B.A. in Mathematics**, *Bloomsburg University*, Bloomsburg, PA

Related Experience

Research

Summer Research Assistantship (5/2023 – 8/2023)
Marquette University, Department of Mathematical and Statistical Sciences, Milwaukee, WI
- Testing performance of BGRAPPA in fMRI using a simulation study while simultaneously comparing the Bayesian method to traditional GRAPPA image reconstruction.

Computational Sciences Summer Research Fellowship (5/2022 – 8/2022)
Marquette University, Department of Mathematical and Statistical Sciences, Milwaukee, WI
- Applied BSENSE to real-world fMRI experimental data with comparisons to SENSE and developed framework for a Bayesian approach to GeneRalized Autocalibrating Partial Parallel Acquisition image reconstruction (BGRAPPA).

Graduate Research Assistant (8/2021 – 5/2022)
Marquette University, Department of Mathematical and Statistical Sciences, Milwaukee, WI
- Applied BSENSE to simulated fMRI data and analyzed real-world fMRI data to prepare for BSENSE image reconstruction.

Computational Sciences Summer Research Fellowship (5/2021 – 8/2021)
Marquette University, Department of Mathematical and Statistical Sciences, Milwaukee, WI
- Developed a new model for parallel image reconstruction in fMRI: Bayesian approach to Sensitivity Encoding (BSENSE).

Independent Research Study (8/2017 – 5/2018)
Bloomsburg University, Department of Mathematics, Computer Science, and Digital Forensics, Bloomsburg, PA
- Derived a more generalized model called the Log-Lindley Normal distribution with an application to risk assessment.

Teaching

Student Success Coordinator – Modern Elementary Statistics (8/2023 – present)
Marquette University, Department of Mathematical and Statistical Sciences, Milwaukee, WI

- Organize weekly review sessions for all Elementary Statistics students.
- Meet one-on-one with students that require extra guidance for success in the course.
- Create practice and homework assignments to establish uniformity between Elementary Statistics sections.

Graduate Teaching Assistant (8/2020 – 5/2021, 8/2022 – 5/2023)
Marquette University, Department of Mathematical and Statistical Sciences, Milwaukee, WI
- Honors Modern Elementary Statistics (Spring 2023)
- Modern Elementary Statistics (Fall 2022, Spring 2023)
- Statistical Methods (Fall 2020, Spring 2021)

Journal Publications

Sakitis CJ, Rowe DB. *Utilization of BGRAPPA and BSENSE Image Reconstruction in fMRI*. (In preparation. Target Journal: Magnetic Resonance Imaging)

Sakitis CJ, Rowe DB. *A Bayesian Approach to GRAPPA Parallel FMRI Image Reconstruction Increases SNR and Power of Task Detection*. (Submitted to Annals of Applied Statistics)

Sakitis CJ, Brown DA, Rowe DB. *A Bayesian Approach to SENSE Parallel FMRI Image Reconstruction Produces Increased Detection of Task Activation*. (Submitted to Journal of the Royal Statistical Society: Series C)

Conference Proceedings/Abstracts

Proceedings

Sakitis CJ, Rowe DB. *Formal Bayesian Approach to GRAPPA Image Reconstruction*. Proc. Joint Stat. Meet., Section in Imaging, Toronto Ontario, Canada, 2023. (Forthcoming)

Sakitis CJ, Brown DA, Rowe DB. *A Full Bayesian Approach to SENSE Image Reconstruction Increases Brain Tissue Contrast and Reduces Noise for More Accurate Statistical Analysis*. Proc. Joint Stat. Meet., Section in Imaging, Washington DC, 2022.

Sakitis CJ, Brown DA, Rowe DB. *A Formal Bayesian Approach to SENSE Image Reconstruction*. Proc. Joint Stat. Meet., Section in Imaging, 25: 1332-1358, Seattle WA (Virtual), 2021.

Posters

Sakitis CJ, Rowe DB. *A Full Bayesian Approach to GRAPPA Reduces Noise in fMRI Image Reconstruction*. American Statistical Association Statistical Methods in Imaging, Minneapolis MN, 2023.

Sakitis CJ, Brown DA, Rowe DB. *A Formal Bayesian Approach to SENSE Image Reconstruction Leads to More Statistically Significant Task Activation in fMRI*. Intl. Soc. for Bayesian Analysis, Section in Objective Bayes, Santa Cruz CA, 2022.

Sakitis CJ, Brown DA, Rowe DB. *A Full Bayesian Approach to SENSE Image Reconstruction Increases Brain Tissue Contrast and Reduces Noise Leading to More Statistically Significant Task Activation*. Amer. Stat. Assoc. Stat. Methods in Imaging, Nashville TN, 2022.

Invited Talks/Presentations

- *Formal Bayesian Technique to Measure Unobserved FMRI Data for Quicker Brain Imaging.* Office of Research and Sponsored Programs, Marquette University, Forward Thinking Symposium, November 2022.
- *Increasing the Accuracy of Statistical Analysis and Task Activation with a Full Bayesian Approach to SENSE Image Reconstruction.* Department of Mathematical and Statistical Sciences, Marquette University, Department Colloquium, September 2022.
- *Bayesian Complex Valued Latent Regression.* Department of Mathematical and Statistical Sciences, Marquette University, Guest Lecturer, November 2021.
- *A Formal Bayesian Approach to SENSE Image Reconstruction.* Department of Mathematical and Statistical Sciences, Marquette University, Department Colloquium, October 2021.

Honors/Awards

- **S.J. Merrill Award: Best Teaching Assistant**, *Klinger College of Arts & Sciences, Marquette University*, 2021.

Travel

- Travel Award: Marquette University, Department of Mathematical and Statistical Sciences
  American Statistical Association Joint Statistical Meeting 2023
- Travel Award: Marquette University, Graduate School
  American Statistical Association Joint Statistical Meeting 2023
- Travel Award: Marquette University, Department of Mathematical and Statistical Sciences
  American Statistical Association Statistical Methods in Imaging 2023
- Travel Support: ISBA and University of California Santa Cruz
  O'Bayes 2022: Objective Bayes Methodology Conference
- Travel Award: Marquette University, Department of Mathematical and Statistical Sciences
  O'Bayes 2022: Objective Bayes Methodology Conference
- Travel Award: Marquette University, Department of Mathematical and Statistical Sciences
  American Statistical Association Statistical Methods in Imaging 2022
- Travel Award: Marquette University, Department of Mathematical and Statistical Sciences
  American Statistical Association Joint Statistical Meeting 2021

Memberships

American Statistical Association
International Society for Bayesian Analysis
Honor Society of Phi Kappa Phi
Kappa Mu Epsilon Mathematical Honor Society