JOSEPH H. RUDOLER

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Education

2021-2023 ***Master of Science in Engineering (MSE)*** [GPA: 3.95/4.0]
University of Pennsylvania, School of Engineering and Applied Science
Philadelphia, PA, USA
Major: Data Science
Relevant Courses: Computational Linear Algebra, Big Data Analytics, Forecasting Methods in Management, Statistics for Data Science, Database & Information Systems, Algorithms & Computation, Bayesian Statistics, Theory of Machine Learning

2016-2020 ***Bachelor of Arts (BA), Magna Cum Laude*** [GPA: 3.71/4.0]
University of Pennsylvania, College of Arts and Sciences
Philadelphia, PA, USA
Major: Physics & Astronomy with a Concentration in Business and Technology
Minors: English and Music
Relevant Courses: Calculus I-IV, Principles of Physics I-III, Electricity & Magnetism I-II, Quantum Mechanics, Analytical Mechanics, Computational Data Exploration, Data Mining & Machine Learning, Statistical Computing in R, Programming Languages & Techniques, Probability
Honors: Dean's List (2017-2018, 2018-2019), Jeffrey Greenberg Undergraduate Research Fellowship (2019-2020)

Research and Work Experience

2021-Pres. ***Data and Programming Specialist,*** Computational Memory Lab
University of Pennsylvania, Department of Psychology
Philadelphia, PA, USA
Role: staff data scientist, managing data pipelines

2020-2021 ***Clinical Research Specialist,*** Computational Memory Lab
University of Pennsylvania, Department of Psychology
Philadelphia, PA, USA
Role: coordinating multi-site project, collecting iEEG data from epilepsy patients, managing clinical imaging and electrode localization pipeline

2018-2020 ***Undergraduate Research Assistant,*** Computational Memory Lab
University of Pennsylvania, Department of Psychology
Philadelphia, PA, USA
Role: individual data analysis projects

2019 ***Pricing Intern,*** Radian Group, Inc.
Philadelphia, PA, USA
Role: pricing models for mortgage insurance premiums

2019 ***Wharton Analytics Fellow,*** Wharton Undergraduate Data Analytics Club
University of Pennsylvania, Wharton School of Business
Philadelphia, PA
Role: data consulting services for external clients

Teaching

2021 ***Instructor***
Estes Summer Workshop in Model-based Cognitive Electrophysiology
Philadelphia, PA, USA

2019 ***Data Science Tutor***
University of Pennsylvania Tutoring Center
Philadelphia, PA, USA

2018-2019 ***Physics Tutor***
University of Pennsylvania Department of Physics & Astronomy
Philadelphia, PA, USA

Publications

Rudoler, J. H., Herweg, N. A., and Kahana, M. J. (In Press). "Hippocampal theta and episodic memory." *Journal of Neuroscience*. Preprint on bioRxiv.

Dougherty, M.R., Chang, W., Rudoler, J.H., Katerman, B.S., Halpern, D., Bruska, J.P., Diamond, N., Kahana, M.J. "Searching memory in time and space." Preprint on bioRxiv.

Poster Presentations

Rudoler, J. H., et al. "Decoding and Optimizing Episodic Memory." MathPsych, July 2022. Toronto, ON, CAN.

Rudoler, J. H., Herweg, N. A., and Kahana, M. J. "Oscillatory and fractal biomarkers of human memory." Computational and Systems Neuroscience (COSYNE), March 2022. Lisbon, Portugal.

Rudoler, J. H., et al. "Decoding and Optimizing Episodic Memory." Context and Episodic Memory Symposium (CEMS), May 2022. Philadelphia, PA, USA.

Rudoler, J. H., et al. "Decoding and Optimizing Episodic Memory." Cognitive Neuroscience Society (CNS), April 2022. San Francisco, CA, USA.

Rudoler, J. H., Herweg, N. A., and Kahana, M. J. “Oscillatory and fractal biomarkers of human memory.” Context and Episodic Memory Symposium (CEMS), August 2021. Philadelphia, PA, USA.

Non-academic Projects

NFL Big Data Bowl

Awarded $15,000 finalist prize from data science competition hosted by the National Football League. Submission outlined and implemented a framework for computing optimal kick return paths to inform NFL special teams players and personnel.

Video: https://www.nfl.com/videos/2022-big-data-bowl-ryan-gross-joseph-rudoler-tai-nguyen-ryan-brill

Kaggle Submission: https://www.kaggle.com/code/jrudoler56/optimal-run-path-for-kick-returners/notebook