KEXIN CHEN

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EDUCATION

Ph.D. in Cognitive Neuroscience 09/2018 - 06/2023 (expected)
University of California, Irvine Irvine, CA

- Advisor: Jeffrey Krichmar
- Relevant coursework: Neural Networks and Reinforcement Learning, Evolutionary Neural Networks, Neural Dynamics, Cortical Neuroscience, Statistical Methods, Discrete Math and Probability

B.S. in Cognitive Science - Computation 09/2014 - 09/2017
University of California, San Diego San Diego, CA

- Minor in Mathematics
- Graduated with honors (*Cum Laude*)
- Relevant coursework: Machine Learning, Neural Networks and Deep Learning, Data Analysis and Inference, Probability and Statistics, Mathematical Statistics, Information Theory, Neuroanatomy and Physiology, Systems Neuroscience

RESEARCH EXPERIENCE

Research Assistant 09/2018 - present
Cognitive Anteater Robotics Laboratory (PI: Prof. Jeffrey Krichmar)
Department of Cognitive Sciences, UC Irvine Irvine, CA
Research interest: computer vision; spiking neural networks; computational modeling of cognitive maps

- Developed a spiking neural network model for visual motion perception and optimized performance with Evolutionary Computation
- Investigate on building a large scale autonomous navigation system with inspirations from spatial representation found in the mammalian brain, employing the approach of evolving spiking neural networks

Research Assistant 04/2017 - 09/2017
Systems Neuroscience Laboratory (PI: Prof. Douglas Nitz)
Department of Cognitive Science, UC San Diego San Diego, CA
Research interest: spatial cognition in navigational behaviors

- Analyzed phase precession phenomenon on rodent subiculum axis-tuned neuron recordings
- Applied data analysis techniques (regression and mean-shift clustering) to identify phase precession instances, and analyzed the relationship between the spike phases and the path lengths

Research Assistant 07/2017 - 09/2017
Department of Political Science, UC San Diego San Diego, CA

- Conducted text analysis with 150,000 tweets from 2016 Presidential candidates
- Adapted machine learning algorithms (SVM, RandomForest, etc.) to classify the tweets and conducted sentiment analysis

WORK EXPERIENCE

Deep Learning Internship 09/2017 - 08/2018
DeepRadiology Inc. Santa Monica, CA

- Replicated deep learning models from published research

- Experimented with various gradient descent algorithms and network parameter settings
- Analyzed experiment results with quantitative methods
- Developed supporting Python scripts for the radiology scan interpretation and reporting system

TEACHING EXPERIENCE

Teaching Assistant 09/2018 - present
Department of Cognitive Sciences, UC Irvine Irvine, CA

- Cognitive Robotics (PSYCH 112R)
- Brain Disorders (PSYCH 160D/BioSci N165)
- Psychology Fundamentals (PSYCH 9A)

Instructional Assistant 09/2016 - 12/2016
Department of Cognitive Science, UC San Diego San Diego, CA

- Modeling and Data Analysis (COGS 109)

AWARDS

John I. Yellott Scholar Award - Honorable Mention

CONFERENCE POSTERS

Chen K Beyeler, M, Krichmar JL (2019). MSTd-like response properties emerge from evolving STDP and homeostatic parameters in a spiking neural network model of MT and MSTd. Society for Neuroscience Annual Meeting, 309.12, Chicago, IL

Olson JM, Tongprasearth K, **Chen K**, Tao EL, Nitz DA. (2018). Subiculum Axis Neurons Exhibit Well-Defined Phase/Space Firing Fields. Learning and Memory 2018, Huntington Beach, CA.

TECHNICAL SKILLS

Matlab, Python, C++, Java, TensorFlow, MXNet, R, Docker, Kubernetes

PROFESSIONAL MEMBERSHIP

Society for Neuroscience (SfN), Student Member.