YONGXU, ZHANG
University of Florida, Gainesville, USA
Mobile: (+1)352-871-1594; E-mail: zhangyongxu@ufl.edu

EDUCATION

University of Florida (UF), Gainesville, FL
Doctoral Student in Electrical and Computer Engineering   Jan 2021 – Aug 2023
University of Florida (UF), Gainesville, FL
Master of Science in Electrical and Computer Engineering   Aug 2019 – May 2021
Nankai University (NKU), Tianjin, China
Bachelor of Science in Physics   Sep 2014 – Jun 2018

RESEARCH EXPERIENCE

Saxena Lab, University of Florida
Graduate researcher   Aug 2020 – Present
Research Advisor: Dr. Shreya Saxena
Achievements:
- Decoded behaviors by using brain activity and recurrent neural network.
- Uncovered importance of features in decoding.
- Explored time-sequence classifications with recurrent neural network.
- Designed time-varying recurrent neural network.

Summer Research, Tsinghua University
Research intern   July 2020 – Oct 2020
Mentor: Dr. Weiwei Jiang
Achievements:
- Implemented different machine learning and deep learning models with radio frequency signal to detect and identify models of drone including off, connected, hovering, flying, and video recording.
- Evaluated the accuracy of different models in classification.

Computational Physical Laboratory, Nankai University
Undergraduate research assistant   Dec 2017 – Dec 2018
Research Advisor: Dr. Yuhua Yin
Achievements:
- Simulated the self-assembling of copolymer by using Lammps software with C++ and Python.
- Explored the form change during self-assembling of copolymer.
- Reformed rigidity of copolymer by restricting the chain angle.

Changchun Institute of Optical Precision Machinery and Physics, Chinese Academy of Sciences
Research intern   Jul 2016 – Aug 2016
Mentor: Wanbin Zhu, Vice-researcher
Achievements:
- Studied how the optical maser emitting infrared light can be applied to measure the molecular concentration, for example, the driver's alcohol concentration.

The Institute of Condensed Matter Physics (ICCMP), Nankai University
Undergraduate research assistant   Mar 2016 – Mar 2017
Research Advisor: Dr. Feng Song
Achievements
- Implemented high temperature solid state methods to the materials and analyzed its characteristics of luminescence.

PUBLICATIONS
Published & Accepted
- **Yongxu Zhang**, Catalin Mitelut, David J Arpin, David Vaillancourt, Timothy H Murphy, Shreya Saxena, "Behavioral Classification of Sequential Neural Activity Using Time Varying Recurrent Neural Networks". (2023 biorxiv)
- **Yongxu Zhang,** Shreya Saxena, "Behavioral Classification of Sequential Neural Activity Using Time Varying Recurrent Neural Networks". (2022 NeurIPS Workshop on Robustness in Sequence Modeling).
- Catalin Mitelut, **Yongxu Zhang**, Yuki Sekino, Jamie Boyd, Federico Bolanos, Nicholas V Swindale, Greg Silasi, Shreya Saxena, Timothy H Murphy, "Mesoscale cortex-wide neural dynamics predict self-initiated actions in mice several seconds prior to movement". (2022 Elife)
- **Yongxu Zhang***, Catalin Mitelut, Gergely Silasi, Federico Bolanos, Nicholas Swindale, Timothy Murphy, Shreya Saxena, "Uncovering the effect of different brain regions on behavioral classification using recurrent neural networks", 2021 43rd Annual International Conference of the IEEE Engineering in Medicine & Biology Society.

PRESENTATIONS
Poster presentation
- Mitelut C, **Zhang Y**, Sekino Y, Silasi G, Boyd J, Bolanos F, Swindale N, Saxena S, Murphy T, "Predicting self-initiated behaviour in mice several seconds prior to movement using widefield calcium imaging", Society for Neuroscience - virtual 2020.
- **Yongxu Zhang***, Catalin Mitelut, Gergely Silasi, Federico Bolanos, Nicholas Swindale, Timothy Murphy, Shreya Saxena, "Uncovering the effect of different brain regions on behavioral classification using recurrent neural networks", 2021 EMBC.
- **Yongxu Zhang**, Shreya Saxena, "Behavioral classification of sequential neural activity using time varying recurrent neural networks", 2022 NeurIPS Workshop on Robustness in Sequence Modeling.
- **Yongxu Zhang**, Shreya Saxena, "Behavioral classification of sequential neural activity using time varying recurrent neural networks", 2023 FCNC.

Oral presentation
- **Yongxu Zhang**, Shreya Saxena, "Behavioral classification of sequential neural activity using recurrent neural networks", 2021 Neuromatch Conference.
- **Yongxu Zhang**, Shreya Saxena, "Behavioral classification of sequential neural activity using time varying recurrent neural networks", 2022 Neuromatch Conference.

ACTIVITIES

Nankai University, Tianjin, CH   Jun 2015 – Jun 2016
Office Director of the Ministry, Student Union

AWARDS

Nankai University, Tianjin, CH
Third Place in the 4th College Students Physics Experiment Competition in China	2017
Wang Da Heng Elite Scholarship	2016
Second Place in the Physics Academic Competition	2015

SKILLS

Languages: Native Mandarin; English
Computer: Python, C++, MATLAB