Xiaohe Xue

jake.xiaohexue@gmail.com | +1 917-498-4490

EDUCATION

Courant Institute of Mathematical Sciences, New York University
September 2019 – May 2021, NYC, U.S.
Master of Science, Computer Science, GPA: 3.84/4.0

University of Minnesota, Twin Cities
September 2016 – May 2017, Minneapolis, U.S.
Undergraduate Exchange Program, Computer Science, GPA: 3.25/4.0

- Sponsored by the Excellent Undergraduate Student Program of China Scholarship Council (Top 5000 undergraduate students in China)

Beijing Jiaotong University
Sep 2014 – July 2018, Beijing, China
Bachelor of Engineering, Software Engineering, GPA: 88.2/100

PUBLICATIONS

- Xue, X., Halassa, M.M. and Chen, Z.S., 2021. Spiking recurrent neural networks represent task-relevant neural sequences in rule-dependent computation. bioRxiv.
- Luo, C., Zhan, J., Xue, X., Wang, L., Ren, R. and Yang, Q., 2018, October. Cosine normalization: Using cosine similarity instead of dot product in neural networks. In International Conference on Artificial Neural Networks (pp. 382-391). Springer, Cham.

PROFESSIONAL EXPERIENCE

Automation Tool Development (Machine Learning) Intern *May 2019 – August 2019, Beijing, China*
Apple R&D (Beijing) Inc.

- Independent R&D projects:
  - Chinese Character Style Transfer, which, after learning a specific font from 20 Chinese characters, can produce other about over 6000 characters with that fonts.
  - Inpainting system for high-resolution images, which combines inpainting and super resolution functions to recover high-resolution(3000x4000) masked images.
  - Internal iOS App demo with SwiftUI and corresponding Node.js server.
- Focus: Generative Adversarial Networks, Application Development

RESEARCH EXPERIENCE

Research Thesis *February 2020 – May 2021, NYC, U.S.*
Research on Context-Dependent Working-Memory Based on Spiking Recurrent Network
Advisor: Prof. Zhe Chen, Center for Neuroscience, NYU

- Experimental Neuroscience Background: Prefrontal cortex neurons in rats showed rule-specific and timing-specific neuronal responses during the delay period and leads to rule-specific neural sequences in a two-alternative forced choice task.

- Simulation: developed a recurrent spiking neural network which can replicate this context-dependent working memory observation with biological constrains, including the completion of the task and the corresponding emerge properties.
- Focus: Working-Memory, Recurrent Spiking Neural Network

Research Assistant *June 2017 – March 2018, Beijing, China*

Research on Cosine Normalization Based on Recurrent Neural Network

Advisor: Prof. Jianfeng Zhan & Chunjie Luo, Institute of Computing Technology, Chinese Academy of Sciences

- Research responsibility: verified Cosine Normalization algorithm could maintain excellent performance on Deep Recurrent Neural Network (RNN) through applying it on various RNN experimental models.
- Focus: Normalization Algorithm, Recurrent Neural Network, Deep Learning

HONORS & AWARDS

- Outstanding Academic Records Scholarship in Beijing Jiaotong University (2014-2015)
- State Scholarship in China Scholarship Council (2016-2017)
- Outstanding Student in State Key Laboratory of Computer Architecture (Chinese Academy of Sciences) in 2017

SPECIAL SKILLS

- IT Skills:
  - Programming Languages: C/C++, Python, Java, Clojure, JavaScript, HTML, Standard-ML, Elixir
  - Programming Libraries: Tensorflow, Chainer, Pytorch, WebGL, Android, SwiftUI, D3.js, Node.js, VLFeat
  - OS: Linux, Windows, MacOS
  - Development Tools: Mysql, Git, Unreal Engine, Cloud Server
- Languages: Mandarin (Native), English (TOEFL 105)