JUSTIN L. WANG

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EDUCATION

University of Illinois at Urbana Champaign, IL
Bachelor of Science in Computer Science, Mathematics & Statistics
Expected: May, 2022   GPA: 3.85/4.00

TECHNICAL SKILLS

Languages : Python, Java, C++, MATLAB, MSSQL
Tools/Frameworks : PyTorch, Tensorflow

EXPERIENCE

Matician   **May 2020 - Current**
Research Engineer Intern   Palo Alto, California, USA

SimBioSys Inc.   **Jan. 2020 - May 2020**
Deep Learning Engineering Intern   Urbana, Illinois, USA
- Constructed CNNs for segmentation as input to physical biology models for tumor growth forecasting
- Set up efficient data streaming in Big Data environments for training deep neural networks
- Performed categorical data injection through Y-Net architectures for discrimination

University of Illinois at Urbana Champaign   **Nov. 2019 - Current**
Department of Atmospheric Sciences   Urbana, Illinois, USA
Machine Learning Researcher
- Time series forecasting of coarse-grained aerosol models using fast and efficient neural networks
- Mitigating error propagation through a variety of methods including multi-step temporal boosting, scheduled sampling, and physical constraints
- Investigating temporal and spatial attention mechanisms on multivariate forecasting

Tsinghua University   **June 2019 - Aug. 2019**
Tsinghua Laboratory of Brain & Intelligence   Haidian, Beijing, China
Machine Learning Researcher
- Researched brain-inspired computing and neurologic processes through unsupervised learning
- Worked on NLP using sparse convolutional autoencoders for feature extraction (PyTorch)
- Programmed hierarchical encoding and decoding of phonemes to mimic brain decomposition of language in neuron clusters

PUBLICATIONS[1]

Wang, J. L., Farooq, H., Ibrahim, A. K., and Zhuang, H., "Segmentation of Intracranial Hemorrhage Using Semi-Supervised Multi-Task Attention-Based U-Net," *Applied Sciences*, 2020.

Wang, J. L., Zhuang, H., Ibrahim, A. K., Cherubin, L., and Ali, A. M., "Medium-Term Forecasting of Loop Current eddy Cameron and eddy Darwin formation in the Gulf of Mexico with a Divide-and-Conquer Machine Learning Approach," *Journal of Geophysical Research: Oceans*, 2019.

Wang, J. L., Li, A. Y., Huang, M., Ibrahim, A. K., Zhuang, H., and Ali, A. M., "Classification of White Blood Cells with PatternNet-fused Ensemble of Convolutional Neural Networks (PECNN)," *Proc. IEEE International Sym. on Signal Processing and Information Technology (ISSPIT)*, 2018.

RELEVANT COURSES

- Abstract Algebra • Abstract Linear Algebra • Data Structures • Deep Learning • Differential Equations • Optimization • Probability Theory • Real Analysis • Stochastic Processes

AWARDS & MISC.

- 2020 Franz Hohn and J.P. Nash Scholarship Recipient
- 2020 UIUC HackIllinois Hackathon Best Novel Use of Mathematics
- 2018 United States of America Computing Olympiad (USACO) Platinum Division
- 2018 United States of America Mathematics Olympiad (USAMO) Qualifier

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[1]For a full list please see https://www.justinlwang.com/publications/