

ZIZHAO WANG

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EDUCATION

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| Columbia University
MS in Computer Science, GPA: 4.00/4.00 | <i>Sept. 2018 - Dec. 2019</i> |
| University of Michigan - Ann Arbor
BS in Computer Engineering, GPA: 3.96/4.00 | <i>Sept. 2016 - Apr. 2018</i> |
| Shanghai Jiao Tong University
BS in Electrical and Computer Engineering, GPA: 3.71/4.00 | <i>Sept. 2014 - Aug. 2018</i> |

RESEARCH AND PROJECTS

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| Variational Inference in Time Series
<i>Research Assistant, Columbia University</i> | <i>Sept. 2018 - Now</i>
<i>New York, NY</i> |
| <ul style="list-style-type: none">· Designed a variational objective based on particle smoothing, and the objective can learn the dynamic system and infer hidden states based on only on observations.· Enabled prediction for various nonlinear chaotic system and reduced the prediction error by 60% than previous methods.· Appeared at ICLR 2019 workshop. Submitted to AAAI 2020. https://arxiv.org/abs/1909.09734. | |
| Accelerate Reinforcement Learning (RL) via Human Brain Signals
<i>Research Assistant, Columbia University</i> | <i>Feb. 2019 - Now</i>
<i>New York, NY</i> |
| <ul style="list-style-type: none">· Designed a framework to speed up RL in sparse reward environments by augmenting RL with a efficient policy learned from human feedback, and the feedback was provided through a Brain-Computer Interface.· Experimented on robot navigation tasks with real human subjects, achieving performance comparable to RL agents learning from human designed rich rewards.· Submitted to ICRA 2020. https://arxiv.org/abs/1910.00682. | |
| Data-driven Estimated Time of Arrival
<i>Senior Project, Shanghai Jiao Tong University</i> | <i>May. 2018 - Aug. 2018</i>
<i>Shanghai, China</i> |
| <ul style="list-style-type: none">· Predicted travel time for taxis drivers, achieving prediction error $< 10\%$.· Matched trajectory GPS with road map using hidden markov model and managed data with PostgreSQL database.· Applied convolutional neural networks to capturing the spatial-temporal relationship in the traffic conditions. | |
| Reinforcement Learning Verification Challenge
<i>University of Michigan</i> | <i>Oct. 2017 - Dec. 2017</i>
<i>Ann Arbor, MI</i> |
| <ul style="list-style-type: none">· Reproduced and verified the paper "Jointly Learning to Construct and Control Agents Using Deep Reinforcement Learning" in ICLR 2018 Verification Challenge.· Implemented parameter-exploring policy gradient and proximal policy optimization, to jointly optimize the physical design and control policy of the robot. | |

SKILLS

Languages Python (TensorFlow), C, C++, PostgreSQL, MatLab