Shang Gao 470 301 7095 | emailshang@gmail.com | https://github.com/iamshang1/Projects

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Oak Ridge National Laboratory – Postdoctoral Researcher, Oak Ridge, TN **Jan 2019 - Present**
Graduate Research Assistant, Oak Ridge, TN **Jan 2017 – Dec 2019**

- Develop and deploy deep learning architectures for automated information extraction from cancer pathology reports; techniques include CNN, RNN, and Transformer-based approaches
- Developed new state-of-the-art text classification model for cancer pathology reports based on neural self-attention that achieves better accuracy and trains 10x faster than the previous state-of-the-art method
- Develop autonomous driving agents in CARLA simulation environment using end-to-end deep imitation learning and deep reinforcement learning methods
- Develop and apply multi-task, semi-supervised, and uncertainty quantification methods for deep learning models
- Scale deep learning algorithms across multiple GPUs and nodes on Oak Ridge supercomputer clusters

University of Georgia – Graduate Research Assistant, Athens GA **Aug 2016 – Dec 2016**

- Work with interdisciplinary team on human activity recognition project that attempts to classify activity type based on hip-worn accelerometer device
- Developed convolutional-LSTM model that achieves competitive performance on human activity recognition tasks without requiring manual engineering of features

Noble Systems – Technical Writer, Atlanta GA **Mar 2012 – Jul 2016**

- Produce customer-facing online training for a wide range of contact center products, including campaign management software, IVR scripting interfaces, and more
- Maintain and develop structure, templates, procedures, and single-sourcing guidelines for internal, VAR, and customer knowledge bases—content includes product technical specifications, client connectivity information, troubleshooting and configuration guides, database reference tables, and best practices

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Ph.D. Data Science – University of Tennessee, Knoxville **Aug 2017 – Dec 2019**

- Research focus: deep learning for natural language processing

B.S. Economics – Duke University **Aug 2005 – May 2009**

- Major in Economics, minor in Film, second minor in Markets and Management

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Recent First Author Publications and Patents

- 2020 Gao S, et. al. *Quantitative Evaluation of Autonomous Driving in CARLA*. Under review at the Machine Learning for Autonomous Driving workshop at NeurIPS 2020.
- 2020 Gao S, et. al. *Limitations of Transformers on Clinical Text Classification.* Under review at the Journal of Biomedical and Health Informatics.
- 2020 Gao S, et. al. *Biomedical named entity recognition in low resource settings.* Under review at PLOS One.
- 2020 Gao S, et. al. *Using case-level context to classify cancer pathology reports*. PLOS One.
- 2019 Gao S, et. al. *Classifying Cancer Pathology Reports with Hierarchical Self-Attention Networks*. Artificial Intelligence for Medicine.
- 2019 Patent for Live Call Debugging and Monitoring Tool for an Interactive Voice Response Unit (10212283)
- 2018 Gao S, et. al. *Hierarchical Convolutional Attention Networks for Text Classification*. Representation Learning for Natural Language Processing, Proceedings of ACL 2018.
- 2017 Gao S, et. al. *Hierarchical attention networks for information extraction from cancer pathology reports*. Journal of the American Medical Informatics Association.
- 2016 Patent for Utilizing Predictive Models to Improve Predictive Dialer Pacing Capabilities (US9723144B1)

Programming Languages and Skills

- I am experienced with Python, Numpy, Pandas, SciKitLearn, TensorFlow, PyTorch, and PySpark
- I am comfortable working in Linux, SQL, and MPI
- I can speak conversational Chinese