Jian Wang

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Publications

Think Visually: Question Answering through Virtual Imagery.
Ankit Goyal, Jian Wang and Jia Deng. *Association for Computational Linguistics (ACL), 2018.*

- Used a novel deep neural network to build a question-answering system.
- Our architecture can interpret spatial relations from text descriptions.
- Achieved state-of-the-art performance on two synthetic dataset: FloorPlanQA and ShapeIntersection.

Premise Selection for Theorem Proving by Deep Graph Embedding.
Mingzhe Wang, Yihe Tang, Jian Wang, and Jia Deng. *Neural Information Processing Systems (NIPS), 2017.*

- Constructed a deep graph embedding network, to determine if a premise is useful in proving a conjecture.
- Increased the premise selection accuracy from 83% to 90.3% on the HolStep dataset.

Fidelity of measurement-based quantum computation in a bosonic environment.
Jian Wang, Ding Zhong, Liangzhu Mu, and Heng Fan. *Physical Review A 90, 052306, 2014.*

- Simulated quantum computing systems and determined the damage different types of noises do.

Projects

- **Theorem proving dataset**: Collected a mathematical theorem proving dataset, to train automated theorem provers. Provided rich annotations and APIs to help explore the data.
- **Shape-from-shading challenge**: Organized a machine learning challenge in our computer vision class. Wrote a website consisting of a login system, a performance evaluation system, and a leaderboard.
- **Sticky-particle simulation**: Simulated a box of sticky particles and predicted the phases in different temperatures. The simulation runs in parallel, with a load balancing system to ensure its efficiency.

Experience

University of Michigan Ann Arbor, Michigan
Graduate Student Instructor

- EECS 542: Advanced Computer Vision (Fall 2017)
- EECS 442: Computer Vision (Winter 2018, Winter 2017)
- EECS 203: Discrete Mathematics (Fall 2016)

University of Michigan Ann Arbor, Michigan
Research Assistant

- Deep learning: logic reasoning (Summer 2018)
- Deep learning: language understanding (Summer 2017)
- Quantum information: energy consumption in quantum computation processes (Summer 2016)

Skills

- **Programming Languages**: Python (expert), MATLAB (expert), C/C++ (fluent), PHP (prior experience), SQL (prior experience).
- **Deep Learning Frameworks**: PyTorch (expert), TensorFlow (expert).
- **Natural Languages**: English, Chinese.

Education

University of Michigan Ann Arbor, Michigan
Master of Science in Computer Science (expected) GPA: 3.87 *Sep 2015 – Aug 2018*

- Coursework: Machine Learning, Parallel Computing, Algorithms, Randomness and Computation

Peking University Beijing, China
Bachelor of Science in Physics GPA: 3.73 *Sep 2011 – Jun 2015*

- Coursework: Probability Theory and Statistics, Mathematical Modeling, Theoretical Computer Science, Optics, Electrodynamics, Fundamentals of Electronic Circuits