Xuan Wang

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Education

- **New York University** — New York, NY
  M.S. in Computer Science; current GPA: 3.85/4.00 — *Aug. 2016 – May 2018*
- **Korea Advanced Institute of Science and Technology** — Daejeon, Korea
  B.E. in Electrical Engineering; Exchange semester sponsored by China Scholarship Council — *Aug. 2013 – Dec. 2013*
- **Nanjing University of Aeronautics and Astronautics** — Nanjing, China
  B.E. in Aerospace Engineering/Electrical Engineering; GPA: 93/100; Ranking: 1/203 — *Aug. 2011 – Jul. 2016*

Experience

- **Laiye (China's leading ToB taskbot company)** — Beijing, China
  Natural Language Processing Engineer, Intern — *Jun. 2017 - Aug. 2017*
  From cleansing historical dumped dialog data to onlining a deep learning powered dialog response reranking sub-system. Result work serves in production which helps CRM representatives in a maternal and infant care company provide better interaction with customers. `link`
  - **Preprocessing**: Wrangle historical dumped dialog data; generate negative samples to make train/valid/test sets.
  - **Preparation**: Use preselected stop words and user-defined keywords to configure the vocabulary of the tokenizer/chunker; train word-embeddings with different parameterization and design automated evaluation.
  - **Offline Modeling**: Implement a multi-turn dialog response reranking model in Tensorflow; introduce synchronized multi-gpu acceleration in training stage.
  - **Online Serving**: Freeze and export the model ready for TF-Serving; launch the model and write a client stub to serve it through gRPC.
  - **Test**: Conduct joint performance tuning, implement test interfaces and analyze bad cases, together with upstream information retrieval coworkers.
- **Ford** — Nanjing, China
  EESE System Engineer, Intern — *Jul. 2015 - Aug. 2015*
  Compiled a functional manual describing electronic and electric components of a Ford Escort model.
  - **Data Collection**: Retrieve component-wise information from component owners across teams and review.
  - **Schematics Analysis**: Break down system schematics to component schematics, and derive grounding strategies

Projects

- **MPI-based distributed asynchronized-ly trained image recognition model**:
  A parameter server-worker design applying distributed asynchronized training.
- **Static GPU performance modeling and prediction,** `link`:
  Model GPU performance based on PTX instruction level IO and computation interleaving patterns.
- **Nuclear norm SDP formulated matrix completion using ADMM**:
  Apply ADMM on matrix completion, with efficient updates on a problem of size $\mathbb{R}^{1000\times1000}$ (or $\texttt{double}^{1000\times1000}$).
- **Likelihood estimation of generative models using Annealed Importance Sampling,** `link`:
  Primarily evaluate VAE and GAN on likelihood using Annealed Importance Sampling.
- **Indoor Person Segmentation with Kinect**:
  A one-stage segmentation system transfer learned based on FCN with graphcut finer edge smoothing.
- **OS Components**:
  - **Linker**: A two-pass linker resolves local and external variables, then relocates relative addresses to absolute ones
  - **Process Scheduler**: Both non-preemptive (e.g. Round-Robin) and preemptive ones (e.g. Dynamic Priority).
  - **MMU**: A virtual paging MMU with different replacement algorithms (e.g. Second Chance and Aging).

Skills

- **Programming Languages**: : Python, C++/C, Shell, Java, Latex, Scala, Lisp, Haskell
- **Technologies**: : Tensorflow, CUDA, Pytorch, MapReduce, Hadoop Ecosystem, Spark

Awards

- **National Scholarship** — The Ministry of Education of China
- **Global Korea Scholarship** — National Institute for International Education of Korea
- **1st Prize in Jiangsu Province College Level Advanced Mathematics Competition**
- **1st Prize in Jiangsu Province High School Olympic Physics Competition**