Junbin Huang

✉ jhuan129@jhu.edu · 📞 (+1) 410-800-3919 ·

🔗 Personal Website: https://billbeatthepeat.github.io/ · ⭕ https://github.com/BILLBEATTHEPEAT

Actively Seeking (SDE) Fulltime in 2020

Education

Johns Hopkins University, Baltimore, Maryland, USA — Sep 2018 – Dec 2019
Master of Science in Engineering   Computer Science

Shanghai Jiao Tong University, Shanghai, China — Sep 2013 – Jul 2017
Bachelor of Engineering   Electrical Power Engineering and Automation

Work Experiences

Amazon, AWS, Seattle, USA — May 2019 – Aug 2019
Software Development Engineer (Intern)

Ctrip.com (International), Ltd. (Shanghai), Shanghai, China — Jan 2018 – Jul 2018
Software Development Engineer (Intern)

Maxtropy Co., Ltd, Shanghai, Shanghai, China — May 2017 – Dec 2017
Algorithm Engineer (Intern)

Selected Projects

1. **EBS Server Simulation Kernel:**
   - Built up a kernel for EBS customer behavior simulation and analysis for AWS EBS team.
   - Used Monte Carlo method to sample the historical customer data to simulate the EBS server performance. Extracted the framework from an exist pacakge, modularized and expended it as a kernel for the EBS simulation available for simulation of all the AWS EC2/EBS server-side objects.
   - The package is used by the data scientist team in EBS for the analysis for over-subscription strategies and evaluation for new products. It will be provided as a customer-side prediction tool available for the customer when choosing EBS services in the future.

2. **Illegal Advertisement Detection System:**
   - Built up a system to detect illegal advertising pictures and slogan shown online.
   - Used OCR technique (CRNN + CTPN) along with rule-based regular expression for slogan filtering. Used pre-train InceptionResnet with manufactured picture (using OpenCV) for illegal picture detection.
   - Got 89.72% of recall rate in picture detection and 100% accuracy in slogan detection. Greatly decreased the risk of being fined for illegal advertisement (more than 700 illegal items detected, each one is worth 20K RMB fine).

3. **Machine Learning for Short-term Precipitation Nowcasting:**
   - Analyzed radar echo extrapolation data for short-term precipitation nowcasting (more than 100 GB data in $4 * 101 * 101 * 15$ matrix form)
   - Applied and compared Machine Learning approaches like ConvLSTM, XGBoost and CNN with Attention.
   - Won 5th prize in CIKM AnalytiCup 2017 (top 0.5% out of 2203 teams in total, hold by CIKM conference).

4. **Seq2seq model with Prognostics & Health Management**
   - Prognostics & Health Management (PHM) for train bogie vehicle model using Isolation Forest model along with sequence to sequence model.
   - Won 4th prize in the PHM Data Challenge Competition 2017 (top 3% out of 34 teams in total, hold by PHM Conference).

5. **Software for Automatic Sleep Stage Classification:**
   - Applied Machine Learning approaches to develop a novel algorithm to classify sleep stages automatically with EEG, EMG, EOG signals and the like.
   - Applied for patent (pending) and implemented a simple software for hospital in Tibet for research usage.

Skills

- Programming Language: Python, Java, Matlab, SQL, LaTeX.
- Environment/tools: Linux, Tensorflow, Pytorch, Keras, Anaconda.