Juyong Jiang

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Education

- **Hohai University (HHU)** — **Nanjing, China**
  B.Eng. in Computer Science and Technology — *08/2016--07/2020*
  GPA 88.76/100 (rank 8/107)

Research Experience

- **Image & Video Analysis Group, National Laboratory of Pattern Recognition(NLPR), Institute of Automation, Chinese Academic of Sciences** — **Beijing, China** *10/2019--Present*
  Research Intern
  - Worked on computer vision, focus on object detection, semantic segmentation, and instance segmentation in images & videos,
  supervised by Prof. **Jing Liu**.

- **Institute of Science and Technology for Brain-Inspired Intelligence, Fudan University** — **Shanghai, China** *08/2019--02/2020*
  Research Intern
  - Worked on randomized algorithms, graph-based learning algorithms, and high-dimensional time series modeling,
  supervised by Prof. **Jie Zhang** and Prof. **Kai Zhang**.

- **Pervasive Computing Lab, College of Computer Science and Technology, Zhejiang University** — **Hangzhou, China** *07/2019--08/2019*
  Research Intern
  - Worked on spatiotemporal data mining, graph convolution network, and time series modeling, supervised by Prof. **Ling Chen**.

- **AI Development Group, College of Internet of Things Engineering, Hohai University** — **Nanjing, China** *08/2018--07/2020*
  Research Assistant
  - Worked on application development based on deep learning, such as sports scoreboard recognition, bank card recognition, using JETSON NANO to deploy the trained model and so on, supervised by Prof. **Jianjun Ni**.

Publications

- **Juyong Jiang**, Jie Zhang and Kai Zhang. "Cascaded Semantic and Positional Self-Attention Network for Document Classification." *Findings of Empirical Methods in Natural Language Processing (**EMNLP**)*, 2020.
- **Juyong Jiang**, Xingjian He, and Jing Liu. "SAMask: Self-Attention Network for High-Quality One-stage Instance Segmentation." **Writing in Progress**, I will submit to *Proceedings of the IEEE International Conference on Computer Vision (**ICCV**)*, 2021
- **Juyong Jiang**, Haode Zhang, and Xiaoming Wu. "DARNet: Dual Attention Representation for Few-shot Multi-label Intent Detection." **Writing in Progress**, I will submit to *Proceedings of the Annual Meeting of the Association for Computational Linguistics (**ACL**)*, 2021

Patents

- Junfeng Chen, **Juyong Jiang**, et al. "A fault diagnosis system for rail transit platform doors based on deep learning." *Chinese Patent. CN110262463A*, 2019
- Jianjun Ni, **Juyong Jiang**, et al. "Bank card number positioning and recognition end-to-end method based on CNN and RNN." *Chinese Patent. CN110766001A*, 2019
- Junfeng Chen, **Juyong Jiang**, et al. "Multi-regional precipitation prediction model construction method based on multi-graph convolution and memory network." *Chinese Patent. CN111126704A*, 2019

Selected Projects

- **Video & Image Instance Segmentation Based on Deep Learning**. ***03/2020--Present***
  - Predict both the location and the semantic mask of each instance in an image & video.
  - Add the module of ASPP, CoordConv, DCN, Global Pooling, Self-Attention, etc. on baseline framework to solve some problems and improve performance.
  - ✓ ***IVA, NLPR, CASIA & HuaWei***.
- **Spatiotemporal Attention Probes Mechanism.** ***09/2019--02/2020***
  - Establish Spatiotemporal Graph.
  - Use Query as a seed and then use the Markov Random Walk, Random Walk with Restart, Page Rank, etc. on Spatiotemporal Graph to form the interaction of neighborhood.
  - Combine the node information in the neighborhood to generate polarity features.
  - ✓ ***Temple University & Fudan University***.
- **Spatiotemporal Data Mining in Smart Cities Based on Deep Learning**. ***07/2019--08/2019***
  - Encode the non-Euclidean pair-wise correlations among regions into multiple graphs and then explicitly model these correlations using multi-graph convolution network.
  - Augments recurrent neural network with a contextual-aware gating mechanism to re-weights different historical observations.
  - Use a fully connected neural network to transform features into the prediction.
  - ✓ ***College of Computer Science and Technology, Zhejiang University***.
- **Bank Card Recognition System Based on Deep Learning**. ***03/2019--07/2019***
  - Data augmentation by using random cropping, rotation, various transformation, blur and noise.
  - Using CTPN & CRNN model to locate and recognize bank card number, respectively.
  - Developing a web page and an android app to display and use.
  - ✓ ***College of Internet of Things Engineering, Hohai University***.

Selected Awards & Honors

- Outstanding Bachelor Thesis in Jiangsu Province (**only 2 papers** in Department of Information), 2020.
- Excellent Bachelor Thesis Award in Hohai University (**5%**), 2020.
- Outstanding Student Honor in Hohai University (Two times), 2019, 2020.
- Top 10 Outstanding students in Hohai University, 2018.
- Excellent Grades in Trash Classification Challenge Cup of Huawei Cloud Artificial Intelligence Contest, 2019.
- National Encouragement Scholarship, 2018.
- Research and Innovation Excellent Scholarship in Hohai University, 2020.
- Spiritual Excellent Scholarship in Hohai University (Two times), 2019, 2020.
- Academic Excellent Scholarship in Hohai University (Four times), 2017, 2018, 2019, 2020.

Mathematical Ability

- 2nd Prize for Certificate Authority Cup Mathematical Modeling Online Challenge (Two times), 2020.
- Honorable Mention for Mathematical Contest in Modeling, 2018.
- Honorable Mention for Certificate Authority Cup International Mathematical Contest in Modeling, 2017.
- Excellent academic grades in all mathematic curriculum. (Advanced Mathematics-*A*, Linear Algebra-*A*, Probability and Statistics-*A*, Mathematical Modeling-*A*, Numerical Analysis and Computing-*A*, Discrete Mathematics-*A*, Data Structure and Algorithms-*A*)
- Member of Mathematical Modeling Lab, Hohai University.

Technical Skills

Programming	C / C++, Matlab, Java, Python, Shell, CUDA, LaTeX
Web	HTML / CSS, JavaScript, JSP, PHP
OS	Linux
Framework	Tensorflow, Pytorch
English	College English Test Band 4 / 6: 532 / 492; Duolingo English Test: 105