

Juyong Jiang

🏠 <https://juyongjiang.work>
✉ csjuyongjiang@gmail.com | 📷 juyongjiang

Education

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- **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

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- **Video Intelligence Group, SmartMore Corporation Limited** **Shenzhen, China**
Vision Algorithm Intern *12/2020--Present*
- Worked on *Low-Level Computer Vision*, focus on Single Images & Videos Super-Resolution, supervised by Dr. **Nianjuan Jiang**.
 - **Image & Video Analysis Group, National Laboratory of Pattern Recognition(NLPR), Institute of Automation, Chinese Academic of Sciences** **Beijing, China**
Research Intern *10/2019--10/2020*
- Worked on *High-Level 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**
Research Intern *08/2019--02/2020*
- 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**
Research Intern *07/2019--08/2019*
- 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**
Research Assistant *08/2018--07/2020*
- Worked on *Computer Vision Application Development*, 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

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- **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**
 - **Juyong Jiang**, Kenkun Liu, Nianjuan Jiang, Jiangbo Lu, and Jiaya Jia. "Self-adaptive Local-global aware Transformer for 3D Multi-person Pose Estimation." **Writing in Progress**

Patents

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- 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

- **Anti-aliasing Tiny Network for Video Super-Resolution.** **12/2020--02/2021**
 - For 960 x 540 image input, Tiny Network needs only 0.8532 GFlops and 22,720 Parameters to get a very well 1920 x 1080 super resolution images that makes it possible to deploy in low-computation mobile devices.
 - Writing code for data processing, training model, result visualization, onnx model exporting, etc. all in all, by myself.
 - ✓ *SmartMore Co., Ltd.*
- **Video & Image Instance Segmentation.** **03/2020--10/2020**
 - 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.** **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.** **03/2019--07/2019**
 - Data collection and 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