

# Juyong Jiang

🏠 <https://juyongjiang.work>

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## 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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- **Image & Video Analysis Group, National Laboratory of Pattern Recognition(NLPR), Institute of Automation, Chinese Academic of Sciences** **Beijing, China**  
*Research Intern* *10/2019--Present*
    - 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**  
*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 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

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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.
  - Junfeng Chen, **Juyong Jiang**, et al. "A fault diagnosis system for rail transit platform doors based on deep learning." *Chinese Patent. 201910613949.1*, 2019
  - Jianjun Ni, **Juyong Jiang**, et al. "Bank card number positioning and recognition end-to-end method based on CNN and RNN." *Chinese Patent. 201910933476.3*, 2019
  - Junfeng Chen, **Juyong Jiang**, et al. "Multi-regional precipitation prediction model construction method based on multi-graph convolution and memory network." *Chinese Patent. 201911362437.9*, 2019

## Selected Projects

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- **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

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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

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- 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

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- 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.

## Skills

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<b>Programming</b>	C / C++, Matlab, Java, Python, LaTeX
<b>Web</b>	HTML / CSS, JavaScript, JSP, PHP
<b>OS</b>	Linux
<b>Framework</b>	Tensorflow, Pytorch