

## **Fupin Yao**

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### **Education**

2017 Jan - 2019 Jan:

Master student in Computer Engineering

Purdue University, West Lafayette, IN, USA

Field of Research: Computer vision and deep learning

2011 Sep - 2016 June:

B.S. in Computer Sci. and Tech. Department

Huazhong Univ. of Sci. and Tech., Wuhan, China

### **Research Experience**

**Ph.D. Researcher, iFlyTek-Surrey Joint Research Centre on Artificial Intelligence, UK 2019 Oct - 2021 Jan**

- Proposed a new and realistic setting, cross-domain few-shot learning and designed a benchmark for this setting.
- Proposed a contrastive learning based approach and a rotation based approach and our methods improve the accuracy from 60% (the baseline) to 70%.
- Published two paper based on the above results.

**Research assistant, Purdue University, USA**

**2018 Jan - 2019 Jan**

- Designed and implemented a new type of spherical convolutional layer, a new type of spherical pooling layer and convolutional neural networks for 3d models classification and retrieval.
- Achieved superior accuracies over the state of the art and publish a paper in ICLR.

**Research assistant at NTU, Singapore**

**2016 July - 2016 Dec**

- Proposed a new research topic: grasping object in a way like humans
- Designed and implemented a novel end-to-end convolutional neural network for object detection and grasping part detection and achieved high accuracy. The visual info is used for robot grasping.
- Published a paper based on the above result.

### **Industrial Experience**

**Software engineer and CEO, Shulaishuwang Ltd., Wuhan, China.**

**2015 Apr - 2015 Oct**

- Worked as a android and back-end engineer and CEO of a 8-people team
- Contributed a large portion of android client development and server development.
- Released an android application for connecting people from the same hometown. [Overview](#) [Download](#).

**Software engineer and CTO, Baijinglian Chuang Ltd., Wuhan, China.**

**2014 Oct - 2015 Apr**

- Worked as CTO in a start-up internet company and was in charge of a 10-engineer team.
- Contributed a large portion of android client development, released an android application for college students, like Amazon. [Overview](#) [Download](#).

### **Skills**

**Machine learning:** Expert in few shot learning, meta learning, familiar with GNN, VAE, explainable AI, supervised learning, self-supervised learning, GNN, transformers.

**Math:** Good at linear algebra, probability, calculus. Know stochastic process and optimization.

**Coding:** Has several years experience as a software developer, released several android apps  
Proficient in PyTorch, Tensorflow, Keras, Java, python, PHP, Git, Docker, MySQL, Condor and Android.  
Familiar with C/C++, HTML, JavaScript, Typescript, React, Ruby & Rails, Node.js & Express, Spring Boot, Django, MatLab, OpenCV, AWS, GCP and Colab  
Know hadoop, MapReduce

**Language:** Proficiency in English (IELTS 6.5 and TOFEL 92) and Mandarin (native)

### **Publication**

- Min Liu, **Fupin Yao**, Chiho Choi, Sinha Ayan, Karthik Ramani. "Deep Learning 3D Shapes Using Alt-azimuth Anisotropic 2-Sphere Convolution" 7th International Conference on Learning Representations. (**Top conference in deep learning**)
- Thalmann, Nadia Magnenat, Li Tian, and **Fupin Yao**. "Nadine: A Social Robot that Can Localize Objects and Grasp Them in a Human Way." Frontiers in Electronic Technologies. Springer,

- Singapore, 2017. 1-23. **(Responsible for object-recognition part)**
- **Fupin Yao** "Cross-domain Few-shot Learning with Unlabelled Data" [Arxiv, pre-print.](#)
  - **Fupin Yao** "Machine learning with limited data" [Arxiv, pre-print.](#)

#### **Awards**

Recipient of the Student Travel Grant of IEEE Automatic Face and Gesture Recognition(2017)

Second Prize in Huawei Cup intelligent design contest(2014)

Third Prize in China Internet business plan contest(2013)

1985 Alumni scholarship,HUST(2012)

Outstanding Student Scholarship, HUST (October, 2012)