

# Zhe Yang

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## RESEARCH INTERESTS

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Systems and Networking, Machine Learning.

## EDUCATION

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**Shanghai Jiao Tong University, Shanghai, China**

M.S. in Information and Communication Engineering

Advisor: Prof. Xinbing Wang

*Sept. 2014 – Mar. 2017 (expected)*

Overall GPA: 3.55/4.0

**École Centrale de Nantes, Nantes, France**

Dual-degree general engineering program

Specialty: Virtual Engineering

*Sept. 2012 – Aug. 2014*

Overall GPA: 17.2/20

**Shanghai Jiao Tong University, Shanghai, China**

B.S. in Information Engineering

*Sept. 2010 – June 2012*

Overall GPA: 87.4/100

## PUBLICATIONS

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[1] **Z. Yang**, Y. Bao, C. Luo, X. Zhao, S. Zhu, C. Peng, Y. Liu, X. Wang, “ARTcode: Preserve Art and Code In Any Image”, *the 2016 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp)*, Sept. 2016, Heidelberg, Germany.

[2] **Z. Yang**, Z. Zhang, Y. Bao, X. Gan, X. Tian, X. Wang, “OnTac: Online Task Assignment for Crowdsourcing”, *the 2016 IEEE International Conference on Communications (ICC)*, May 2016, Kuala Lumpur, Malaysia.

[3] Y. Wu, X. Wang, **Z. Yang**, X. Gan, X. Tian, X. Wang, “Crowdclustering Items into Overlapping Clusters”, *the 2016 IEEE International Conference on Communications (ICC)*, May 2016, Kuala Lumpur, Malaysia.

## RESEARCH EXPERIENCE

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**Adaptive Robust Dot Matrix Barcode Implementation (Leader)**     *Apr. 2015 – Mar. 2016*  
*In cooperation with Microsoft Research*

- Designed Colored Dot Matrix to represent an image with k-means clustering and dithering.
- Introduced a data hiding technique in barcode design to insert as much data into an image as possible with little distortion.
- Designed a reliable ARTcode decoding scheme, composed of a distortion-aware detection algorithm and a comprehensive error correction scheme.
- Conducted experiments under variant scanning conditions, showing that ARTcode achieves a decoding accuracy of 99%; launched a subjective user study and testified that the image preservation quality is acceptable.

**Boosting capacity in Multi-color Barcode Streaming (Member)**     *Apr. 2015 – Feb. 2016*

- Conducted a series of experiments to test the stability of colors within different color spaces under variant illuminance conditions.
- Designed a Hue-based color selection scheme considering the stability of color recognition and interferences among different colors.
- Proposed a robust distortion-aware decoding algorithm and implemented it.
- Conducted experiments to testify the robustness of this barcode under variant conditions.

**Online Task Assignment in a Crowdsourcing System** (*Leader*) *May 2015 – Oct. 2015*

- Integrated an online EM algorithm to update parameters in real time with worker labeling each question in a crowdsourcing system.
- Designed a task-worker pairing scheme based on estimated parameters, aimed at enhancing the accuracy while decreasing the cost and running time of the crowdsourcing system.
- Conducted simulations with MATLAB, showing that our algorithm outperforms the conventional EM algorithm in efficiency and accuracy.

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**PROFESSIONAL EXPERIENCE**

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**MSC Software, Paris, France** (*Intern*) *May 2014 – Aug. 2014*

- This project is a component of a European research project Thermal Overall Integrated Conception of Aircraft (TOICA).
- Extracted geometric data from a 3D CAD model of an Alenia aircraft with Python API inside an MSC Software CAE environment.
- Built up a thermal model of the aircraft based on geometric data and simulated thermal transmissions to optimize the efficiency of heating systems.

**Virtual Engineering Project, Nantes, France** (*Leader*) *Feb. 2014 – May 2014*

- Integrated a human behavior tracking system (Kinect) and a virtual reality headset Oculus Rift within a 3D engine Unity3D.
- Used this integrated system to implement a virtual reality ball game with C# and JavaScript.

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**AWARDS**

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National Scholarship (top 1%)	<i>Sept. 2016</i>
Second Prize in National Postgraduate Mathematic Contest in Modeling	<i>Oct. 2015</i>
Academic Scholarship of Shanghai Jiao Tong University, First Class	<i>Sept. 2015</i>
National Scholarship of China Scholarship Council	<i>2012, 2013, 2014</i>
Academic Scholarship of Shanghai Jiao Tong University, Second Class	<i>Sept. 2011</i>

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**SKILLS**

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<b>Programming:</b>	Matlab, L <sup>A</sup> T <sub>E</sub> X, C++, Java, Python, C#
<b>Languages:</b>	Chinese (native), English (TOEFL 112, GRE 328+3.5AW), French (fluent)
<b>Tools:</b>	Git, OpenSG, MPI, SQL, Linux, Adobe Illustrator

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**MISCELLANEOUS**

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**Extracurricular Activities**

Volunteer at ACM China Council Shanghai Summit	<i>May 2016</i>
- Logistics, photography.	
Vice President of SJTU l'Association Sino-Française	<i>Sept. 2015 – June 2016</i>
- Organized orientations for new exchange program students from France.	
- Organized the first Shanghai Forum of Francophone Students Alliance.	
Player at soccer team of SJTU EE Department	<i>Sept. 2015 – May 2016</i>
Participator at Laval Virtual Conference 2014	<i>Mar. 2014</i>

**Hobbies**

Playing soccer, cycling, skiing, watching movies, traveling.