

# Shifu Yan

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## EDUCATION

### East China University of Science and Technology

Shanghai, China

*Bachelor of Engineering in Automation*

Sep 2013 - Jun 2017

- GPA: 3.7448 / 4.0 (rank: 2 / 84).
- Honors/Awards: First-class academic scholarship (rank: 1 / 84; 2016), Excellent Student Award (2014 - 2016).
- Relevant Coursework: C/C++, MATLAB, Python, Artificial Intelligence, Automatic Control.

### East China University of Science and Technology

Shanghai, China

*Ph. D Candidate in Control Science and Engineering*

Sep 2017 - present

- Honors/Awards: First-class academic scholarship (rank: 1 / 79; 2018), Excellent Student Award (2018).
- My research interests include Machine (Deep) learning, Anomaly (Outlier) detection and I am dedicating to the applications of such algorithms in the real world like statistical process monitoring, soft sensor.

## RESEARCH EXPERIENCE

### East China University of Science and Technology

Sep 2017 - present

*Key Laboratory of Advanced Control and Optimization for Chemical Process Ministry of Education*

- Topic: Key performance indicator related predicting and monitoring based on deep learning; Data-driven plant-wide nonlinear process monitoring.
- Content: 1) Identify abnormal production conditions by detecting outliers in the complex multivariate data in industrial processes based on machine (deep) learning and statistics; 2) Predict and monitor key performance indicators that cannot be measured in time to reduce unnecessary downtime and economic losses.
- At present, 3 papers has been published (first author); 4 papers are under reviewed (first author); 3 papers under reviewed (second author).

## PROFESSIONAL EXPERIENCE

### Custom product design based on 3D printing

Jan 2016 – Jun 2017

*National innovation project for college student*

- Responsible for developing a plug-in for rapid modeling in SolidWorks using VBA.

### Data-driven prediction of key components of phenolic resin

Aug 2018 – present

*Cooperate with Red Avenue, a public company*

- Responsible for modeling the production process using support vector machine, Intelligent optimization algorithm, neural networks and developing relevant software using Python for guiding the production to increase profit.
- At present, the software is registered and running for 4 months, a Chinese patent is under reviewed.

## PUBLICATIONS

**Shifu Yan**, Junping Huang and Xuefeng Yan. "Monitoring of quality-relevant and quality-irrelevant blocks with characteristic-similar variables based on self-organizing map and kernel approaches." **Journal of Process Control**, vol. 73, pp. 103-112, Jan. 2019. (JCR: Q2; IF: 3.316)

**Shifu Yan**, Xuefeng Yan. "Using Labeled Autoencoder to Supervise Neural Network Combined with  $k$  - Nearest Neighbor for Visual Industrial Process Monitoring." **Industrial & Engineering Chemistry Research**, vol. 58, no. 23, pp. 9952-9958, May. 2019. (JCR: Q1; IF: 3.375; Published as supplementary Cover)

**Shifu Yan**, Xuefeng Yan. "Design teacher and supervised dual stacked auto-encoders for quality-relevant fault detection in industrial process." **Applied Soft Computing**, vol. 81, Aug. 2019. (JCR: Q1; IF: 4.873)

## HONORS & AWARDS

Shanghai Scholarship (#4 / 84)

Sep 2015

National Mathematical Modeling Competition (2nd Prize in Shanghai)

Nov 2015

National Scholarship (Highest scholarship in China, #1 / 84)

Sep 2016

Excellent Graduate in Shanghai

Jun 2017