

# Dingyi ZHUANG

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## EDUCATION

<b>Shanghai Jiao Tong University</b> <i>Bachelor of Mechanical Engineering</i> <ul style="list-style-type: none"><li><b>Hsue-shen Tsien Class:</b> Honor Program in Shanghai Jiao Tong University (top 5%).</li><li><b>Cumulative Academic Average:</b> 85.67/100.</li><li><b>Ranking:</b> 3/8</li></ul>	<i>Shanghai, China</i> <i>Expected 6/2019</i>
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## PUBLICATION

- D.Y. Zhuang**, J.G. Jin, Y.F Shen, W. Jiang, An empirical study on cycle lane network using bike sharing data: the case of Shanghai, *2018 International Conference on Transportation and Space-time Economics*. **(Presentation)**
- D.Y. Zhuang**, J.G. Jin, Y.F Shen, W. Jiang, Understanding the bike sharing travel demand and cycle lane network: the case of Shanghai, *Journal of Transport Geography*. **(Under review)**
- D.Y. Zhuang**, S. Hao, D.H. Lee, J.G Jin, Understanding semantic similarity among subway stations using smart card data. **(Working paper)**

## RESEARCH EXPERIENCE

<b>Understanding Semantic Similarity Among Subway Stations Using Smart Card Data</b> <i>Research Student of National University of Singapore</i>	<i>Singapore</i> <i>7/2018-9/2018</i>
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- Designed a station2vec approach, inspired by word2vec model in natural language processing, then proposed to interpret station vectors as compound words to comprehend their mobility and service semantics.
- Using smart card data collected by Singapore government, applied stacked autoencoder and POI topic modeling to discover the mobility and service semantics respectively to obtain deeper similarity between subway stations.
- Independently finished all modeling and coding work and proposed several urban planning and commercial insight suggestions based on similarity analysis. A working paper is under construction.

<b>Empirical Study on Cycle Lane Network of Shanghai Using Bike Sharing Data</b> <i>Project Leader of 2017 Shanghai Jiao Tong University Chuntsung Program</i>	<i>Shanghai, China</i> <i>3/2017-6/2018</i>
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- Designed procedures to scraped data automatically from bike-sharing application and applied graphic clustering to mine the insight of four different bike-sharing mobility patterns.
- Suggested a method to explore cycle lane network based on bike-sharing mobility configurations and proposed policy recommendations accordingly. Ideas were contributed to journals.

<b>Robotic Sensor Data Capturing and Analysis</b> <i>Research Assistant in Robotics Institute of Shanghai Jiao Tong University</i>	<i>Shanghai, China</i> <i>9/2015-8/2016</i>
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- Assisted in designing and fabricating sensor circuit board to capture the gait data of patients.
- Processed the sensor data with MATLAB to detect the gait patterns of patients.

<b>Meteorological Data Mining and Solar Radiation Prediction</b> <i>Research Assistant in Institute of Refrigeration and Cryogenic Engineering</i>	<i>Shanghai, China</i> <i>10/2017-11/2017</i>
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- Tried to apply machine learning method to predict solar radiation in campus using collected meteorological data.

## SELECTED PROJECTS

<b>First Prize, Chinese University Students Big Data Innovation Application and Modeling Contest (1/130)</b> <i>National Level</i>	<i>6/2017</i> <i>Shanghai Internet Big Data Engineering Technology Research Center</i>
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- Key member of my contest team, familiar with distributed architecture, the use of Hadoop, Spark and other large data processing software for data management and operation.
- Extracted 8 million users' features from more than 150TB data and scraped points of interest in Shanghai. Successfully realized precise portrayal (social behavior and internet habit) of the users' portrait.

**4/2017**

*COMAP (Consortium for Mathematics and Its Application)*

- Led a team of three to conduct analysis, modelling and planning on traffic lane network for autonomous vehicles.
- Responsible for modeling, writing and typography with Latex and data visualization with Visio, Python and R.

**4/2016-4/2017**

## Shanghai Jiao Tong University

- Built commercial website of healthcare equipment Heart-Watchdog with HTML5 and CSS.
- Commercial website had been officially launched on May 1<sup>st</sup>,2017. (<http://heart-watchdog.com/>)

Chungtsung Scholarship (10%), The Hui-Chun Chin And Tsung Dao Lee Endowment Program Commission .	2017
First Prize, Chinese University Students Big Data Innovation Application and Modeling Contest .	2017
Eleme Scholarship (5%, Twice), Shanghai Jiao Tong University.	2016 & 2017
Excellent Student (5%), Shanghai Jiao Tong University.	2016

- Programming: Python, R, C/C++, HTML
- Tools: MATLAB, Visio, Latex, MySQL, Hadoop, Origin
- Languages: CET4: 584/710; CET6: 528/710; TOEFL: 99/120 (Speaking:22); GRE:321+3(AW)

Vice President, Center of Quality Development	5/2016-9/2017
Volunteer, UAES-SJTU Collaboration Agreement Signing Ceremony	8/2017
Outstanding volunteer, 122th Anniversary of Shanghai Jiao Tong University	4/2018
Hobbies: Reading (History, Technology, Psychology), Sports (Basketball, Running)	