

# ZEHAO JIANG

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## EDUCATION

### Harbin Institute of Technology

B.E. in Computer Science, Harbin, China

Aug 2017 - present

### University of California, Berkeley

Academic Exchange, Berkeley, USA

Aug 2019 - Dec 2019

### KTH Royal Institute of Technology

Academic Exchange, Stockholm, Sweden

Jan 2020 - June 2020

Overall GPA: 90/100 Junior(Exchange) GPA: 3.99/4.0

## PROFESSIONAL EXPERIENCES

### KTH Division of Speech, Music and Hearing & Furhat Robotics AB

Consultant & Research Assistant

April 2020 - present

Stockholm, Sweden (Remote)

- Developed Natural Language Utilities for Mandarin and Spanish using Kotlin
- Led research project on robot's audio signal self-awareness and echo canceling using Convolutional Neural Network
- Built a robust model that works reliably and stably with a random delay between microphone and speaker signal, and guaranteed promising performance in real-life scenarios with noise and room acoustics
- Converted TensorFlow model into OpenVINO Intermediate Representation model and applied to Furhat robots
- Currently adding back-channel awareness and directionality awareness to the model to let the robot ignore back channel words and detect speech from a certain direction

### Huawei

Software Engineering Intern

July 2020 - Sep 2020

Shanghai, China

- Designed a strategy for smartphones' screens' refresh rate detection and automatic changing
- Ran dozens of hours of comprehensive functional testing and robustness testing using Huawei's Yunlong CloudPipeline tool
- Approved and adopted by project leaders and this strategy is now applied on every Huawei mobile phone that supports a high refresh rate

### Mechanical Systems Control Lab

Research Assistant

July 2019 - Dec 2019

Berkeley, USA

- Constructed database system to manage terabytes of data generated by the lab every month
- Converted more than 5K lines of codes generating traffic data from real-time videos from MATLAB into Python
- Created a one-time-download-link generator using PHP

### iFLYTEK

Big Data Research Center Intern

July 2018 - Sep 2018

Hefei, China

- Gathered real-time traffic data in order to construct a formula to depict the traffic flow
- Wrote a Python script that automatically completes data cleaning and CSV generation from raw files, which saved 30 hours of manual work every month
- Developed an automatic testing tool using *Feather* format which increases the speed on specific tasks over ten times

## SELECTED PROJECTS

### Personalized Search Engine Combining Different Terms

Advisor: Professor Johan Boye

- Introduced a novel model combining both short-term and long-term effects to reflect on the user's preference as well as their immediate information needs
- Showed significant improvement through Normalized Discounted Cumulative Gain analysis when handling ambiguous terms, compared with single models
- Proved that the aggregation of models can influence the ranking of the returned documents through a stereotypical representation of sub groups

### Analysis of the Topological Structure of Erasmus Mobility Network

Advisor: Professor Sarunas Girdzijauskas

- Adopted the Girvan-Newman algorithm and topic specific pagerank to find the mobility patterns within the Erasmus Program
- Highlighted the existence of a community of schools specialized in performing art exchange
- Presented virtually on department's scientific projects exhibition and got an average score of 94% from three professors

### Instagram Crawler with Voice Command

Advisor: Professor Hongzhi Wang

- Acted as the team leader and came up with the idea
- Built a functional app that automatically extracts users' oral command and scrapes corresponding Instagram posts
- Did sentiment and geographical analysis on posts' content and provided real-time trending topics and activities
- Won first prize among over 80 teams in the university's innovation competition

## HONOURS & AWARDS

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### CCF CSP

2020

- Certified Software Professionals from China Computer Federation
- Rank 9.25%

### 'Renmin' Scholarship

2018, 2019

- Awarded to students with excellent academic performances(top 10%)
- Awarded by the Ministry of Education of China

### First Class University's Innovation Scholarship

2018

- Awarded to students with outstanding innovation projects or presentations(six recipients in the university per year)

### Overseas Conference Travel Grant

2018

- Awarded to students participating in the *ICISTS-KAIST* conference in Daejeon, Korea

## VOLUNTEERING EXPERIENCES

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- Spent two weeks in Pokhara, Nepal in Feb 2019 for childcare volunteering, taught local children fundamental mathematics and basic computer science knowledge
- Awarded *Outstanding Volunteer* in Sep 2017 for service in the International Week hosted by Harbin Institute of Technology Office of Global Affairs

## SKILLS

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- **Programming Language:** C++, Python, Java, Kotlin, PHP
- **Development:** Pytorch, TensorFlow, OpenVINO, Hadoop, Android Studio, MATLAB, LaTeX
- **Language:** Chinese (Native), English (TOEFL iBT 114/120, GRE 328/340)