

Ou Changkun

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Science and art, things in between.

Education

- **University of Munich (LMU)** Munich, Germany
Master of Science in Human-Computer Interaction; GPA: 1.73/1.00 Oct. 2016 – Present
- **University of Electronic Science and Technology of China (UESTC)** Chengdu, China
Master of Engineering in Software Engineering Aug. 2016 – Sep. 2016
- **University of Munich** Munich, Germany
Exchange Student in Media Computer Science Sep. 2015 – Feb. 2016
- **Southwest University for Nationalities (SWUN)** Chengdu, China
Bachelor of Engineering in Computer Science; GPA: 3.74/4.0; Ranking: 1/154 Sep. 2012 – Jun. 2016
- **COURSERA** MOOC platform
Andrew Ng: Deep Learning Specializations, certificates: [1](#), [2](#), [3](#), [4](#) Oct. 2017 – Nov. 2017

Work Experience

- **MagicLingua** Munich, Germany
Fullstack Engineer (Freelance) Nov. 2017 – Present
 - **Speech Recognition:** Neural Network Squeezing; Audio Streaming Solutions
 - **Language Processing:** Conversation Understanding; Language Level Modelling; Answers Fault-tolerance
 - **General Web Development:** Angular; Spring; WebSocket; MongoDB; Elasticsearch; Serverless
- **Shiyanlou** Chengdu, China
Software Engineer (Intern) Jun. 2016 – Sep. 2016
 - **Recommendation System:** Online course recommendation system; Python; MongoDB; Collaborate Filtering
 - **Distributed Log System:** Elasticsearch; Logstash; Kibana; Redis
 - **Desktop Client:** Electron based development for macOS/Windows/Linux
 - **Teaching Material Writing:** C++ 11/14 based teaching material writing
- **LMU Media Informatics Group** Munich, Germany
Student Researcher (Intern) Oct. 2016 – Jan. 2016
 - **Research topic:** Combining motion sensors and touch offset classify hand Posture and users
 - **Outcomes:** A iOS prototype App for User Study, densely data analysis via Support Vector Machine; paper report

Selected Open Projects

- **Open Source Projects:** [changkun@GitHub](#)
- **Translation Works**
includes English and Chinese Apr. 2017 – Present
 - **Juejin@Xitu Translator Member:** The largest EN-CN open source translation community in the word. Involved in [gold-miner](#), [tensorflow](#) projects.
 - **Personal Translations:** [List of works](#)
- **Haggles**
Personal Kaggle solutions Nov. 2017 – Present
 - **Technology Stack:** TensorFlow, Keras, Scikit-Learn
- **Quantified UX Metrics** Munich, Germany
Website development Nov. 2017 – Present

- **Technology Stack:** Vuejs, Expressjs, Chartjs
 - **Description:** A product UX evaluation tool
- **Gitchain** Munich, Germany
Cryptocurrencies prediction Nov. 2017
 - **Technology Stack:** Scikit-Learn
 - **Description:** Predict the success of a new cryptocurrency via its source code.
- **Machine Translation Detection** Huaihua, China
Website development Sep. 2017
 - **Technology Stack:** Expressjs, Vanilla HTML/CSS/JS
 - **Description:** Detect whether a text is translated by machine translation or not
- **Amazon Echo Skill** Munich, Germany
Voice assistant Apr. 2017 - Aug. 2017
 - **Tech Stack:** Python, Flask, Flask-Ask, Amazon Serverless, MongoDB
 - **Description:** A voice assistant for english learner.
- **UniWorX Monitor** Munich, Germany
Website development Mar. 2017
 - **Tech Stack:** Python, Polymer, Express, Electron
 - **Description:** An unofficial LMU UniWorX Course System with new courses notifications
- **Smart Watches Contact-free Control Modalities** Chengdu, China
Bachelor Thesis Apr.2016 – Jun.2016
 - **Tech Stack:** Swift, Node.js, Web Socket, watchOS, iOS, Leap Motion, Git
 - **Description:** Developed an alternative way – midair gesture control – to operate smart watches

Skills

- **Languages:** c/c++; **python;** **javascript (typescript);** obj-c; swift; markdown; **L^AT_EX**; Native Chinese Speaker; Professional Fluent English; Elementary German
- **Systems/Tools:** Mac user; General Linux DevOps; Docker; AWS/DigitalOcean/Aliyun; SQL/MongoDB; zsh/tmux/vim/vscode
- **Frameworks:** **sklearn/tensorflow/keras/opencv/numpy/pandas/matplotlib**, flask, jquery/vue/angular/electron/polymer, node/express
- **Knowledges:**
 - **Human side:** Ubiquitous Interaction Techniques; Large-scale User Study; Quantified User Experience; Website Prototyping; Crowdsourcing in Human Computation; Social Psychology
 - **Machine side:** Generalization Theory of Statistical Learning (specialize in Deep Neural Networks); Computer Vision (specialize in Convolutional Network methods); Nature Language Processing (specialize in Recurrent Network methods); Distributed Computing; High Performance Computing; Compiler Technique
 - **Mathematics:** Real Analysis; Stochastic Process; Elementary Number Theory; Formal Logic and Proof

Publications

- Changkun Ou. *Understanding Generalization in Deep Neural Networks*. Advanced Seminar Deep Learning, IFI LMU, 2018. Inprogress.
- Changkun Ou. *An Introduction to Recent Mobile Affective Inferring Techniques: Methods, Applications and Challenges*. Advanced Seminar Media Computer Science, IFI LMU, 2018. Inprogress.
- Hermann Redich, Patrick Börzel, Isabella Galter, Collin Leiber, Changkun Ou *Convolutional Neural Networks from Zero to Hero*. Advanced Seminar Deep Learning, IFI LMU, 2018. [English](#).
- Matthias Geiger, Changkun Ou, Cedric Quintes. *WatchOut: A Road Safety Extension for Pedestrians on a Public Windshield Display*. Lecture Advanced Topics in HCI, IFI LMU, 2017. In Proceedings.

- Changkun Ou, Yifei Zhan, Zhe Li. *A Novel GWAP Disaster Monitoring System*. Lecture Human Computation, IFI LMU, 2017. [English](#)
- Changkun Ou. *The Fastest Guide of C++11/14*. 2016, [Simplified Chinese](#), [Source Code](#)
- Changkun Ou, Yaxi Chen(responsible professor), Andreas Butz(co-reviewer). *Designing Alternative Contact-free Control Modalities for Smart Watches*. 2016, **Bachelor Thesis**. [Simplified Chinese](#), [English](#)
- Changkun Ou. *Mathematical Modeling Tutorial (Mandarin Chinese Video Series)*. 2016, [YouTube Playlist](#)
- Changkun Ou, Yaxi Chen. *Combining Touch Biometrics and Motion Sensors for Hand Posture Recognition and User Authentication System*. Journal of Southwest University for Nationalities(Nature Science Edition). 2016, 42(4):429-435. [Simplified Chinese](#)
- Changkun Ou, Zhaoyang Guo, Yaxi Chen. *Space interactions based on monocular vision and simple gestures*. Journal of Southwest University for Nationalities(Natural Science Edition). 2014, 40(16):871-876. [Simplified Chinese](#)
- Changkun Ou, Mu Huang, Mengxin Shi, Jiang Cheng. *A Study in Keep-Right-Except-To-Pass Rule*. 2014, **MCM Meritorious Winner** [English](#)

Selected Honors & Awards

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|---|------------------------------|
| • Siemens AILab Hackathon
<i>2nd Winner</i> | Munich, Germany
Nov. 2017 |
| • China National Scholarship
<i>at UESTC</i> | Chengdu, China
Sep. 2016 |
| • Excellent Bachelor Graduation Thesis Award
<i>at SWUN</i> | Chengdu, China
Jun. 2016 |
| • Outstanding University Graduates Student Award
<i>at Sichuan Province</i> | Chengdu, China
Jan. 2016 |
| • Outstanding Student Scholarship
<i>at SWUN</i> | Chengdu, China
Nov. 2015 |
| • Student Innovative Annual Excellent Project
<i>at SWUN</i> | Chengdu, China
Jun. 2015 |
| • Sichuan Province Computer Production Competition
<i>2nd Award</i> | Chengdu, China
May 2015 |
| • China National Scholarship
<i>at SWUN</i> | Chengdu, China
Sep. 2014 |
| • Computer Production Competition
<i>2nd Award</i> | Chengdu, China
Jun. 2014 |
| • American Mathematical Contest in Modeling(MCM) 2014
<i>Meritorious Winner</i> | Chengdu, China
Apr. 2014 |

Selected Public Activities

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| • Student Tutor
<i>Cooperation lecture "Human-Computer Interaction I" between LMU and SWUN</i> | Chengdu, China
Jul. 2015 |
| • Student Volunteer
<i>for Conference Smart Graphics 2015</i> | Chengdu, China
Aug. 2015 |
| • SWUN Guigu Lab Team Leader
<i>Tutorial for members applying projects</i> | Chengdu, China
Sep. 2014 – Jun. 2015 |

- **Mathematical Modeling Association Academic Vice Director**
Academic tutorial for new members

Chengdu, China
Oct. 2012 – Jun. 2014