Ou Changkun

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Curriculum Vitae

Science and art, life in between

Education

- **University of Munich (LMU)** — Munich, Germany
  Master of Science in Human-Computer Interaction; current GPA: 2.24/1.00 — Oct. 2016 – Present

- **University of Electronic Science and Technology of China (UESTC)** — Chengdu, China
  Master of Engineering in Software Engineering — Aug. 2016 – Sep. 2016

- **Southwest University for Nationalities (SWUN)** — Chengdu, China
  Bachelor of Engineering in Computer Science; GPA: 3.74/4.0; Ranking: 1/154 — Sep. 2012 – Jul. 2016

Skills

- **Languages: python**; **javascript (typescript)**; **c/c++ (for optimization)**; obj-c; swift; markdown; LaTeX; 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

- **Certificates:** Coursera, Andrew Ng: Deep Learning Specializations, certificates: 1, 2, 3, 4

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.* Lercture Advanced Topics in HCI, IFI LMU, 2017. English.

- Changkun Ou, Yifei Zhan, Zhe Li. *A Novel GWAP Disaster Monitoring System.* Lercture 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-reviwer). *Designing Alternative Contact-free Control Modalities for Smart Watches.* 2016, **Bachelor Thesis**. Simplified Chinese, English

- Changkun Ou. *Mathematical Modelling 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

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 Meterial Writing**: C++ 11/14 based teaching meterial 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 traslation 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

Selected Honors & Awards

- **Siemens AILab Hackathon**　　　　　　　　　　　　　　　　Munich, Germany
  2nd Winner　　　　　　　　　　　　　　　　　　　　　　Nov. 2017

- **China National Scholarship**　　　　　　　　　　　　　　　Chengdu, China
  at UESTC　　　　　　　　　　　　　　　　　　　　　　Sep. 2016

- **Excellent Bachelor Graduation Thesis Award**　　　　　　　Chengdu, China
  at SWUN　　　　　　　　　　　　　　　　　　　　　　Jun. 2016

- **Outstanding University Graduates Student Award**　　　　　Chengdu, China
  at Sichuan Province　　　　　　　　　　　　　　　　　　Jan. 2016

- **Outstanding Student Scholarship**　　　　　　　　　　　　Chengdu, China
  at SWUN　　　　　　　　　　　　　　　　　　　　　　Nov. 2015

- **Student Innovative Annual Excellent Project**　　　　　　Chengdu, China
  at SWUN　　　　　　　　　　　　　　　　　　　　　　Jun. 2015

- **Sichuan Province Computer Production Competition**　　　Chengdu, China
  2nd Award　　　　　　　　　　　　　　　　　　　　　　May 2015

- **China National Scholarship**　　　　　　　　　　　　　　　Chengdu, China
  at SWUN　　　　　　　　　　　　　　　　　　　　　　Sep. 2014

- **Computer Production Competition**　　　　　　　　　　　　Chengdu, China
  2nd Award　　　　　　　　　　　　　　　　　　　　　　Jun. 2014

- **American Mathematical Contest in Modeling(MCM) 2014**　Chengdu, China
  Meritorious Winner　　　　　　　　　　　　　　　　　　Apr. 2014

Selected Public Activities

- **Student Tutor**　　　　　　　　　　　　　　　　　　　　Chengdu, China
  Cooperation lecture "Human-Computer Interaction I" between LMU and SWUN　　Jul. 2015

- **Student Volunteer**　　　　　　　　　　　　　　　　　　Chengdu, China
  for Conference Smart Graphics 2015　　　　　　　　　　　　Aug. 2015

- **SWUN Guigu Lab Team Leader**　　　　　　　　　　　　Chengdu, China
  Tutorial for members applying projects　　　　　　　　Sep. 2014 – Jun. 2015

- **Mathematical Modeling Association Academic Vice Director**　Chengdu, China
  Academic tutorial for new members　　　　　　　　　Oct. 2012 – Jun. 2014