Ou Changkun

Munich, Germany
+49 157 7214 1480 / +86 186 1322 5636
hi@changkun.us
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Curriculum Vitae

Science and art, life in between

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Education

- **University of Munich (LMU)** — Munich, Germany
  Master of Science in Computer Science; current GPA: 2.14/1.00 — *Apr. 2018 – Present*

- **University of Munich (LMU)** — Munich, Germany
  Master of Science in Human-Computer Interaction; current GPA: 2.14/1.00 — *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; Transcript — *Sep. 2012 – Jul. 2016*

Selected Skills

- **Interested Fields:**

  - **Machine Learning**: Learning Theory (PCA, VC, compression, generalization, manifold); Optimization (regularizations, architecture search); Computer Vision (CNNs, GANs, Adversarial Trainings, Traditional); Causality (Inverse);
  - **Computer Science**: Distributed Systems (Paxos, Raft, Microservices); Networkings (RPC, Transport layer protocols)
  - **Mathematics**: Functional Analysis; Stochastic Process; Probability; Elementary Number Theory; Formal Logic and Proof

- **Preferred Languages:** Go; Python; JavaScript (TypeScript); C/C++ (for optimization)

- **DevOps:** Linux; Docker/Swarm/K8s; AWS/AlibabaCloud; MySQL/MongoDB/Redis

- **Utils:** sklearn/tensorflow/keras/opencv/numpy/pandas/matplotlib

- **Other Certificates:** Coursera, Andrew Ng: Deep Learning Specializations, certificates: 1, 2, 3, 4, 5

Selected Publications

- Changkun Ou. *Capsule Network with Routing Mechanism Part 2: Matrix Capsules.* Talk, 2018. Slides, Video.

- Changkun Ou. *Understanding Generalization in Deep Learning.* Advanced Seminar Deep Learning, IFI LMU, 2018. Slides, Video.

- Changkun Ou. *Capsule Network with Routing Mechanism Part 1: Dynamic Routing.* Talk, 2018. Slides, Video.

- Hermann Redich, Patrick Börzel, Isabella Galter, Collin Leiber, Changkun Ou *Convolutional Neural Networks from Zero to Hero.* Advanced Seminar Deep Learning, IFI LMU, 2018. Slides.

- Changkun Ou. *An Introduction to Recent Mobile Affective Inference Techniques: Methods, Applications and Challenges.* Advanced Seminar Media Computer Science, IFI LMU, 2018. Paper, Slides.

- Changkun Ou. *C++11/14/17 On the Fly: The Fastest Guide towards Modern C++.* Github Open Source Book, 2.8k+ Stars, 2018 English, Chinese.

- Changkun Ou, Yifei Zhan, Zhe Li. *A Novel GWAP Disaster Monitoring System: Rating Model and Malicious Player Detection.* Lercture Human Computation, IFI LMU, 2017. English

- Changkun Ou, Yaxi Chen(responsible professor), Andreas Butz(co-reviwer). *Designing Alternative Contact-free Control Modalities for Smart Watches.* 2016, **Bachelor Thesis**. Chinese, English

- 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. 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. Chinese

- Changkun Ou, Mu Huang, Mengxin Shi, Jiang Cheng. *A Study in Keep-Right-Except-To-Pass Rule.* 2014, American Mathematical Contest in Modeling Meritorious Winner. English

Selected Work Experiences

- **Academic Tutor** — Munich, Germany
  LMU Lecture "Machine Learning" SoSe 2018 — *Aprl. 2018 – Jul. 2018*
  - **Tutorial Notes**: Repository

- **LabEx** — Munich, Germany
  Backend Engineer — *Mar. 2018 – Jul. 2018*
  - **Backend**: Automated Cloud Resource Access Management Microservices, Virtualization

- **MagicLingua** — Munich, Germany
  Fullstack Engineer — *Nov. 2017 – Mar. 2018*
  - **Speech Recognition**: Designing and implementing speech recognition solutions; Conversation Design; Answers Fault-tolerance; Audio Streaming Solutions
  - **General Development**: Angular; Spring; WebSocket; MongoDB; Elasticsearch; Serverless

- **LMU Media Informatics Group** — Munich, Germany
  Student Researcher — *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**: Homepage
- **TensorFlow Documentations Official Translations**
  Management member, translator, proofreading. Repository — *Oct. 2017 – Present*
- **Haggles**
  Personal Kaggle solutions — *Nov. 2017 – Present*
  - **Source Code**: Repository
- **Gitchain** — Munich, Germany
  Siemens AILab Hackathon 2nd Winner Project: Cryptocurrencies prediction — *Nov. 2017*
  - **Description**: Predict the success of a new cryptocurrency via its source code.
  - **Source Code**: Repository
- **Amazon Echo Skill** — Munich, Germany
  Voice assistant — *Apr. 2017 - Aug. 2017*
  - **Description**: A voice assistant for english learner.
  - **Source Code**: Repository
- **Smart Watches Contact-free Control Modalities** — Chengdu, China
  Bachelor Thesis — *Apr.2016 – Jun.2016*
  - **Description**: Developed an alternative way – midair gesture control – to operate smart watches
  - **Source Code**: Repository

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*

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

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

Selected Activities

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

- **SWUN Mathematical Modeling Association Vice Director** Chengdu, China
  Lecturer *Oct. 2012 – Jun. 2014*