

# Maoyin Sun

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## Chemnitz University of Technology, Faculty of Computer Science

2016–2024, *Master of Science*, Web Engineering, Chemnitz, Germany.

**Distinction:** Gut

**Degree focus:** Systematic and quantifiable approaches to the design, implementation, and operation of web-based solutions

**Thesis:** *System Design, Implementation and Evaluation of a User-Centered Application for Indoor Sound Classification*. Supervisor: Prof. Danny Kowerko and Arunodhayan Sampathkumar

**Keywords:** system design, user experience, asynchronous messaging, decoupled architecture, high availability, low-latency streaming, acoustic event classification, deep neural networks

## Ocean University of China, School of Mathematical Sciences

2011–2015, *Bachelor of Science*, Information and Computing Science, Tsingtao, China.

**Grade Point Average:** 3,2 (*modified Bavarian formula*)

**Degree focus:** Mathematics, numerical analysis, mathematical modeling, high-performance computing, information theory, and cryptography

**Thesis:** *An E-voting System Based on Cryptology*. Supervisor: Prof. Jingliang Zhang

**Keywords:** cryptography, VLR group signature, DTDH Assumption, E-voting, online certificate revocation, algorithm design

## Chinese University of Hong Kong, Business School

2012, *Asia-Pacific Business Talent Exchange Programme*, Hong Kong, China.

Studied basic subjects in commerce, finance and business management and analyzed special cases of recent global financial crisis.

## Robert Bosch GmbH, Division of Cross-Domain Computing Solutions

2022–2023, *Working Student*, Leonberg, Germany.

Designing and developing **lossless and near-lossless compression algorithms** in C++

- Developed lossless and near-lossless image compression softwares for image-based sensors and assessment tools (C++, Computational photography, Computer vision, ADTF, ADAS);
- Set up knowledge management system **deployment pipeline** for **architecture descriptions** with bug fixing of upstream open source projects (Ruby, Gradle, docToolchain, arc42).

## Union Investment, Department of Investment Controlling System

2019–2021, *IT Inhouse Consultant Internship & Working Student*, Specialist for Risk Controlling & Performance Analysis, Frankfurt am Main, Germany.

Responsible for the operation and further development of SS&C Algorithmics and Ortec Pearl (Python, JavaScript, C, Go, Bash, Perl, Oracle DB, Java)

- Created a **parser** to analyze the dependencies of **4.000+ legacy code files** and furthermore provided an interactive visualization and basic **static analysis** without any language specification available (Python, JavaScript, D3.js);
- End-to-end delivered a **new Prometheus-Grafana monitoring system** and implemented exporters which replaced previous probing solutions and reduced the latency to **1/150.000** (from half a minute to 200  $\mu$ s) during peak time (C, Go, Python, Bash, PromQL);
- Implemented new **VaR** models and **stress test** scenarios, fixed, maintained and improved legacy code i.g. reduced the memory consumption of a script to **10%** (from 3.1TB to 300GB) without affecting performance, making it feasible to include more data (Perl, Oracle DB);
- Developed bash utilities and visualizations for various analysis including **NUMA tuning**, **Java GC tuning**, and **PL/SQL tuning**, implemented a general sandbox for testing in a clean environment (Bash, Java, Oracle DB, JavaScript, D3.js, etc).

## Chemnitz University of Technology, Faculty of Computer Science

2017, *Research Assistant*, Chemnitz, Germany.

This project was part of an interdisciplinary research team in the *CrossWorlds* graduate school and ranged from cognitive and developmental psychology to aspects of human–computer interaction and technical system implementation (Virtual Reality, Unity3D, C#, JavaScript).

## Silicon Spread Corp., Department of Marketing

2016, *Internship*, Dalian, China.

Independently redesigned and consigned its website (PHP, HTML, CSS, SVG, JavaScript, Vue.js).

## Lazywrt.org

2013–2014, *Co-Founder & Front-end Developer*, Tsingtao, China.

Designed and developed Lazywrt Wi-Fi router and its **firmware** and Franz Open-Advertising Wi-Fi AP Cloud Management Service (OpenWrt, C, Lua, Python, HTML, CSS, JavaScript).

## Prudential plc

2012, *Personal Financial Planning and Analysis Internship*, Hong Kong, China.

Learned and practiced basic knowledge of planning, forecasting and analysis, as well as team working skills on personal finance consulting.

## Competitive Programming Contests

2012–now, multiple locations. Selected awards:

- The 1<sup>st</sup> place at 31<sup>st</sup> Classic Coding Contest 2019 Frankfurt am Main, Germany;
- The 3<sup>rd</sup> place, teamed, at 30<sup>th</sup> Classic Coding Contest 2019 Salzburg, Austria;
- Silver Medal, teamed, 2014 ACM–ICPC Shandong Provincial Programming Contest, China;
- Honorable Mention, teamed, 2013 ACM–ICPC Asia Regional Contest Nanjing On-site, China.

## Cyber Security Contests

2014–now, multiple locations. Selected awards:

- The 1<sup>st</sup> place, randomly teamed, at IAV Security Hackathon Braunschweig 2019, Germany;
- Second Prize, teamed, the Second *Qingdao 4G China-Mobile Cup* Qingdao Collegiate Cyber Security Contest 2014, China.

## Association for Computing Machinery

2014–2016, *Awarded Student Membership*.

## Mathematics Contests in Modeling

2012–2013, multiple locations. Selected awards:

- Honorable Mention, teamed, the 2013 Mathematical Contest in Modeling, global online;
- First Prize, teamed, 2012 China Undergraduate Mathematical Contest in Modeling.

## Ocean University of China, Student Societies

2011–2014, *President*, CoYouth Club, Tsingtao, China.

Held and coached programming contests, hosted technical salons (e.g. Software Freedom Day) and provided various IT services.

2012–2014, *Vocal Percussionist*, Students Art Troupe, Tsingtao, China.

2011–2013, *Head of IT Department*, Student Union, Tsingtao, China.

Built and maintained the official website, set up and operated social media accounts, and worked on the book *Ten Years Review of Student Union OUC*.

## Languages Spoken

- **Chinese:** Native speaker
- **English:** Professional working proficiency
- **German:** Limited working proficiency
- **JavaScript:** „Native speaker“