

PERSONAL INFORMATION	Department of Informatics Technical University of Munich Boltzmannstr., 3 85748 Germany	(+49) 15223290081 yuanfei.lin@tum.de yuanfei-lin.github.io
EDUCATION	Technical University of Munich , Munich, Germany Ph.D., Computer Science • Advisor: Prof. Dr.-Ing. Matthias Althoff M.Sc., Mechanical Engineering • GPA: 1.1/1.0 (Best 1% German grading scale) M.Sc., Mechatronics and Robotics • GPA: 1.2/1.0 (Best 5% German grading scale) Tongji University , Shanghai, China B.Sc., Automotive Engineering • GPA: 4.8/5.0 (Best 5% Chinese grading scale)	2021.05.01 - present 2018.10.01 - 2020.12.07 2019.04.01 - 2020.12.07 2013.09.01 - 2018.07.01
HONORS AND AWARDS	Graduation Scholarship Awarded by TUM German National Scholarship Excellent Graduates of Shanghai, China Tongji Scholarship of Excellence National Scholarship in China Shanghai Scholarship, China	2020 2019 2018 2017 2016, 2014 2015
RESEARCH EXPERIENCE	Technical University of Munich , Munich, Germany <i>Research Assistant (January - April, 2021)</i> Continued the work of the Master's Thesis, which targets for writing a conference paper at the IEEE ITSC 2021. <i>Master's Thesis (May - December, 2020)</i> <i>Efficient Trajectory Repairing for Automated Vehicles</i> To ensure the safety of autonomous vehicles, we repaired the trajectories which do not consider all traffic rules or were infeasible to be executed. The first approach was based on an anytime graph-based search algorithm. In the second approach, we combined reachability analysis with convex optimization. They were both evaluated with different real traffic scenarios. <i>Semester Thesis (November, 2019 - May, 2020)</i> <i>Creation of Complex Test Scenarios for Automated Vehicles</i> To secure and release automated vehicles, we presented an optimization-based approach to generate more complex test scenarios by means of Evolutionary Algorithm (EA). Tuning experiments with Genetic Algorithm (GA) and Particle Swarm Optimization (PSO) were performed to achieve better optimization performance. Tongji University , Shanghai, China <i>Bachelor's Thesis (January - July, 2018)</i> <i>Degradation Mechanism and Modeling of Power Battery for Electric Vehicles</i>	

Designed and completed reference performance and accelerated life cycle tests of a ternary lithium-ion battery. Discovered variation rules of capacity & ohm resistance with temperature, discharge depth and charge-discharge ratio. Formulated a semi-empirical cycle life model and verified it with a new set of test data.

TEACHING EXPERIENCE

MW0538 Teaching Assistant, TU Munich (May - July, 2020)

Formerly a Teaching Assistant for MW0538, Modern Control 1, with Prof. Dr. Boris Lohmann. Duties included teaching tutorials, and writing and developing course materials.

PAPERS

Yuanfei Lin*, Matthias Althoff.

Rule-Compliant Trajectory Repairing using Satisfiability Modulo Theories.

2022 IEEE Intelligent Vehicles Symposium (IV), 2022.

Yuanfei Lin*, Sebastian Maierhofer, Matthias Althoff.

Sampling-Based Trajectory Repairing for Autonomous Vehicles.

2021 IEEE International Conference on Intelligent Transportation Systems (ITSC) , 2021, 572-579.

COMPUTER SKILLS

- **Programming:** ROS, MATLAB, Python, C/C++, C#, L^AT_EX
- **Software:** Simulink, Unity 3D, AutoCAD, Catia, Inventor
- **Language:** Chinese (Native), English (C1), German (C1)
- **Interests:** Swimming, Drawing, Traveling, Volunteering

INDUSTRY EXPERIENCE

Software Engineering Intern, Validas AG, Munich, Germany (December, 2019 - March, 2020)

Interned at Validas AG, an expert in library and tool qualification. Analyzed functional safety of libraries by the Tool Chain Analyzer (TCA) for automotive industry. Generated test cases in Python and C++ for the CUDA library using industrial standard ISO26262.

Software Engineering Intern, NIO, Shanghai, China (October, 2017 - January, 2018)

Interned at NIO, an automobile manufacturer specializing in designing and developing electric vehicles. Tested NOMI, an in-car AI system, for NIO ES6 and ES8 prior to launch. Evaluated NOMI functions such as navigation and vehicle control with static and dynamic indicators.

Product Development Intern, Volkswagen Group China, Shanghai, China (April - October, 2017)

Interned at Volkswagen Group China, a division of the German automotive concern Volkswagen Group in China. Assisted in the establishment of Inspection Characteristic Plan (PMP) files for each project. Generated PMP subsidiary project files, and used Catia to conduct pre-processing analysis.