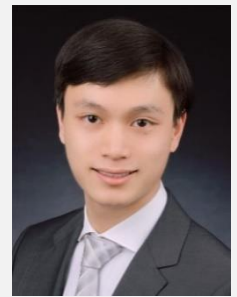


# Yuncong Yu

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Germany  
Birth: 29.05.1992 in Zhejiang, China



## Work Experience

01.2020 – today

### **IAV GmbH Ingenieurgesellschaft Auto und Verkehr, Gifhorn**

Data Scientist | Department of Data Science & AI Projects

- Pattern and motif search, anomaly detection in data from various projects
- Analysis of battery aging effects with Bayesian inference
- Prototyping in various projects (e.g., SaaS measurement data platform, requirements analysis tool) with React, Django/FastAPI, and MySQL

03.2019 – 12.2019

### **TLK-Thermo GmbH, Brunswick/Ingolstadt**

Development Engineer

- (Co-)Simulation, optimization, and control of full cell models with MATLAB/Simulink and Modelica/Dymola
- Data analysis and process automation with Python

07.2018 – 12.2018

### **AUDI AG, Ingolstadt**

Master Thesis | Department of Thermal Management for Fully Electric Vehicles

- Data-driven multivariate time series analysis with Python and TensorFlow
- Validation and integration for thermal management with MATLAB/Simulink

10.2017 – 03.2018

Internship | Department of Engine Flow and Aerodynamics Simulation

- Optimization and validation of an automotive climatization model
- 1D-Co-simulation with MATLAB/Simulink, Dymola/Modelica and TISC
- 3D-CFD simulation with OpenFOAM, ANSA and CATIA

## Education

12.2020 – 01.2025

### **Utrecht University, Utrecht, the Netherlands**

Computer Science (Dr.)

- Research direction: time series analysis and visual analytics
- Doctoral Thesis: Multivariate Time Series Pattern Search

09.2015 – 12.2018

### **Karlsruhe Institute of Technology (KIT), Karlsruhe**

Mechanical Engineering (M.Sc.)

- Major fields: mechatronics and Simulation
- Final grade: 1.4
- Master thesis: Segmentation, Comparison, and Interpretation of Multivariate Time Series (grade: 1.0)

09.2011 – 06.2015

### **Sichuan University (SCU), Chengdu, China**

Mechanical Engineering (B.Eng.)

- Final grade: 92/100 (Top 1 of 358 Students)
- Bachelor thesis: Design and Finite Element Analysis of a Synthetic Human Organ Injection Mold (The first price of excellent bachelor thesis)
- National Scholarship x2, excellent graduate student at the university

## Practical Experiences

05.2017 – 07.2017



**Karlsruhe Institute of Technology (KIT), Karlsruhe**

Cognitive Automobile Lab | Institute of Measurement and Control Technology (MRT)

- Autonomous driving in a team of 6 students
- Perception, longitudinal and lateral control with C++ and Python in ROS

10.2016 – 03.2017

Scientific Assistant | Institute of Technical Mechanics (ITM)

- Tutor for computer-aided simulation with MATLAB/Simulink
- Numerics, NVH, CFD, FEM and DoE

06.2013 – 06.2014



**SCU, Faculty of Mechanical Engineering, Chengdu, China**

Project | National College Competition of Mechanical Innovation Design

- Team leader of 4 students
- National second price and provincial the first price

## Publications

Y. Yu, T. Becker, P. Schichtel, W. Aigner, A. Telea, Michael Behrisch (2025), NOOPS: Nonmyopic Feedback-Driven Pattern Search in Multivariate Time Series. <http://dx.doi.org/10.2139/ssrn.5180352>

Y. Yu, T. Becker, W. Aigner, A. Telea, and M. Behrisch (2025) Time Series Representation Techniques: a Survey. <http://dx.doi.org/10.2139/ssrn.5180323>

Y. Yu, T. Becker, L. M. Trinh, M. Behrisch (2023): SAXRegEx: Multivariate Time Series Pattern Search With Symbolic Representation, Regular Expression, and Query Expansion. In Computers & Graphics 112, pp. 13–21. DOI: 10.1016/j.cag.2023.03.002. **(Best Paper in EuroVA 2022)**

Y. Yu; D. Kruffy; J. Jiao; T. Becker; M. Behrisch (2022): PSEUDO: Interactive Pattern Search in Multivariate Time Series with Locality-Sensitive Hashing and Relevance Feedback. In IEEE Transactions on Visualization and Computer Graphics 29 (1), pp. 33–42. DOI: 10.1109/TVCG.2022.3209431. **(Best Paper in VDS 2022)**

Y. Yu, T. Mayer, E. Knoch, M. Frey, F. Gauterin (2019): Segmentation of Multivariate Time Series with Convolutional Neural Networks. In : Proceedings of the International Conference on Calibration-Methods and Automotive Data Analytics.

Y. Yu, T. Mayer, E. Knoch, M. Frey, F. Gauterin (2019): Time Series Comparison with Dynamic Time Warping, Convolutional Neural Network and Regression. In : Proceedings of the International Conference on Calibration-Methods and Automotive Data Analytics.

## Language Skills

<b>German</b>	fluent	(TestDaF: 18/20)
<b>English</b>	fluent	(TOEFL: 100/120, GRE: 322/340 3.5/6, CET-6: 602/720)
<b>Chinese</b>	first language	

## Computer Skills

**Data Science:** Python, TensorFlow, PyTorch  
**WebDev:** JavaScript/TypeScript, React, Django, MySQL, D3  
**DevOps:** Git/GitLab, Docker, CI/CD-Pipeline, Jira, Confluence  
**Simulation:** MATLAB/Simulink, Dymola/Modelica, ANSYS  
**Others:** C/C++, ROS, CATIA, Pro/E, AutoCAD

## Others

Driving licence in China (Class C1) and Germany (Class B)  
Prototype driving licence (Class C)