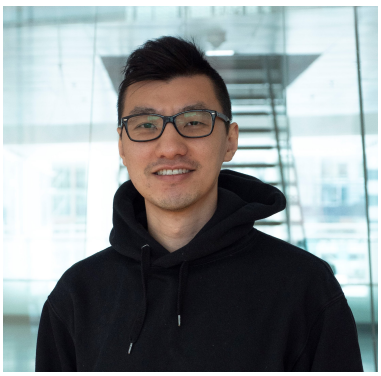
Yizhou Zhang

yizhou@chalmers.se zyzads12@gmail.com
+46 72 184 3506
linkedin.com/in/yizhou-zhang-02541a95
yizhouzhang.com



Employment History

2017 – Present

Technical Specialist and Industrial PhD, China Euro Vehicle Technology AB, Sweden

- Design and develop innovative battery aging estimation and prediction methods using real-world fleet data.
- Develop health-conscious fast charging strategies.
- Design and evaluate next-generation battery systems.
- Conduct long-term battery cell lifetime evaluation tests.
- Perform commercial cell opening, post-mortem analysis, and assemble three-electrode cells.

Battery System Validation Engineer, China Euro Vehicle Technology AB, Sweden

- Establish battery test benches and battery management system hardware-in-the-loop systems from scratch.
- Conduct battery pack testing.
- Perform comprehensive battery system verification on vehicles.
- Execute hardware-in-the-loop tests for battery management systems.
- Validate battery software functionality.
- Participate in vehicle winter/summer expeditions to verify complete high voltage systems.

2016 – 2017

Battery Software Engineer, National Electric Vehicle Sweden AB, Sweden

- Develop model-based battery control software for battery management systems.
- Lead the design and development of battery pack state of charge estimation software.
- Lead the design and development of battery open circuit voltage estimation algorithms.
- Lead the design and development of battery resistance estimation algorithms.
- Integrate and verify software (application layer and basic software).

Education

2020 – expected 2024 Nov

Ph.D., Chalmers University of Technology, Sweden in Electrical Engineering.
Thesis title: *Data-driven battery aging diagnostics and lifetime extension.*

2014 – 2016

M.Sc., Royal Institue of Technology (KTH), Sweden in Electrical Engineering.
M.Sc., KU Leuven, Belgium in Electrical Engineering.
Thesis title: *Modularized battery management systems for Lithium-Ion battery packs in EVs.*

2010 – 2014

B.Sc., Southeast University, China in Electrical Engineering.

Research Publications

1. **Y. Zhang**, T. Wik, and C. Zou, *A method for estimation state of health of a battery*, Patent pending, European Patent Office.
2. **Y. Zhang**, T. Wik, and C. Zou, *Battery anode potential estimation enabling ultra-fast charging*, Patent pending, European Patent Office.
3. **Y. Zhang**, "Data-driven battery aging diagnostics and prognostics," Licentiate thesis, Chalmers University of Technology, 2023.
4. **Y. Zhang**, T. Wik, J. Bergström, and C. Zou, "Practical battery state of health estimation using data-driven multi-model fusion," *IFAC-PapersOnLine*, vol. 56, no. 2, pp. 3776–3781, 2023.
5. **Y. Zhang**, T. Wik, J. Bergström, and C. Zou, "State of health estimation for lithium-ion batteries under arbitrary usage using data-driven multi-model fusion," *IEEE Transactions on Transportation Electrification*, 2023.
6. **Y. Zhang**, T. Wik, Y. Huang, J. Bergström, and C. Zou, "Early prediction of battery life by learning from both time-series and histogram data," *IFAC-PapersOnLine*, vol. 56, no. 2, pp. 3770–3775, 2023.
7. **Y. Zhang**, T. Wik, J. Bergström, M. Pecht, and C. Zou, "A machine learning-based framework for online prediction of battery ageing trajectory and lifetime using histogram data," *Journal of Power Sources*, vol. 526, p. 231 110, 2022.

Skills

Languages	English, Mandarin Chinese, Basic Swedish.
Coding	Python, SQL, C, Matlab, Simulink, LaTeX,
Automotive software	Canoe, Canalyzer, Canape, Inca, Systemweaver, Vector DaVinci, Mentor Volcano, SCADE, DSA.
Misc.	Academic research, teaching, training, consultation, LaTeX typesetting, and publishing.

Miscellaneous Experience

Awards and Achievements

2023 **MECC rising star researcher**, Modelling, estimation control conference.
2014 **EIT KIC shcolarship**, European union.
2013 **UTK student scholarship**, University of Tennessee.

Certification

2020 **Deep learning specialization**. Awarded by Coursera.
Reinforcement learning specialization. Awarded by Coursera.
2018 **Certified winter test driver**. Awarded by Colmis proving ground.
Certified test driver. Awarded by Hällered.

References

Prof. Torsten Wik
Department of Electrical Engineering, Chalmers University of Technology
Email:torsten.wik@chalmers.se
Telephone: +46 31 772 5146