

# Haoyang CHEN

Research Interest	I am interested in <b>Human-Centered Computing</b> and <b>Social Computing</b> , especially in Human Behavior and User preference modeling and analysis.		
CONTACT INFORMATION	<div>❑ School of Computer Science and Engineering, <b>Southeast University</b></div> <div>❑ School of Computing, <b>National University of Singapore</b></div> <div>✉ hy_chen@seu.edu.cn    haoyang.chen@u.nus.edu</div> <div>☎ +86-18994042935    +65-98926028</div>		
EDUCATION	<div><b>Southeast University</b>, Nanjing, China <span>09/2020 – 09/2024</span></div> <div>- <i>Bachelor of Computer Science</i> <span><b>GPA: 3.85/4.0</b></span> <span><b>Avg. Score: 88.44</b></span></div> <div>- Department of Computer Science and Engineering</div> <div>- <i>Major Courses</i> <span>(<sup>†</sup> Ranked as <b>top 1</b>)</span></div> <div>Program Design 98<sup>†</sup>    Mathematical Analysis 91    Algorithm Design and Analysis 94<sup>†</sup></div> <div>Data Structures 97    Advanced Algebra 94    Probability Theory and Statistics 94</div> <div><b>Hong Kong Polytechnic University</b>, Hong Kong, China <span>07/2021 – 08/2021</span></div> <div>- <i>International Summer School</i> <span><b>GPA: 4.0/4.0</b></span></div>		
Publication	<div><i>Multi-agent reinforcement learning for fleet management: a survey</i></div> <div><i>H Chen</i>, Z Li, X Yao <span>AIAHPC 2022</span></div>		
Under Review	<div><i>i-Rebalance: Personalized Vehicle Repositioning for Supply Demand Balance</i></div> <div><i>H Chen</i>, P Sun, Q Song, W Wang, W Wu, W Zhang, G Gao, Y Lyu <span>(AAAI 2024)</span></div>		
RESEARCH EXPERIENCE	<div><b>Ubicomp Lab</b>, National University of Singapore, Singapore <span>08/2023 – Present</span></div> <div><b>Research Assistant</b> <span>Principal Investigator: <b>Prof. Brian LIM</b></span></div> <div>Working on <u>User-centric Explainable AI</u>. Dedicated to empowering physicians with visual programming for building Diagnostic Systems using modular neural networks to improve interpretability.</div> <div><b>COOLA Lab</b>, Southeast University, China <span>08/2021 – 08/2023</span></div> <div><b>Research Assistant</b> <span>Principal Investigator: <b>Prof. Yan LYU</b></span></div> <div>Worked on <u>preference aware intelligent transportation systems</u>. Dedicated to user behavior modeling and building user preference-aware systems as well as applied reinforcement learning.</div>		
RESEARCH PROJECTS	<div><b>Modularized Interpretable MDSS with Visual Programming</b> <span>08/2023 – Present</span></div> <div><ul style="list-style-type: none"><li>Designing a <u>Visual Programming Toolkit</u> for building AI diagnosis models as a reference to lighten the doctors' workload.</li><li>Empowering doctors with <u>Modularized Neural Network Nodes</u> to build highly customized diagnosis models align with their own preference.</li><li>Enhancing the <u>interpretability</u> of AI diagnosis models to improve <u>human-machine trust</u> by offering interpretations and visualizations on each module.</li></ul></div>		

	<b>Personalized Vehicle Repositioning for Ride-hailing Platforms</b> 12/2021 – 08/2023 <ul style="list-style-type: none"> <li>• Led a team of 3 to design a reposition algorithm that considers driver preference.</li> <li>• Proposed a <u>personalized</u> sequential vehicle reposition framework with dual <u>DRL</u> agents and conducted <u>on-field user study</u> of 106 drivers.</li> <li>• Customized a vehicle reposition simulator with driver behavior modeling.</li> <li>• Published a survey paper of using <u>Multi-Agent Reinforcement Learning</u> in Fleet Management on AIAHPC 2022.</li> <li>• Research paper submitted to IJCAI 2023, scoring 6/6/5/5. Under Review for AAAI 2024.</li> </ul>
	<b>Ear Motion Tracking System for VR Devices</b> 04/2022 – 05/2023 <ul style="list-style-type: none"> <li>• Instructed 2 sophomores on detecting ear motion as input to VR devices.</li> <li>• Utilized ear motion as a replacement for traditional handles as an input measure to be used in VR to facilitate the people with special needs.</li> <li>• Built a prototype using headset and endoscopes. Detected ear motion with Lucas-Kanade optical flow method.</li> <li>• Carried out a small group of <u>user study</u> on 15 volunteers.</li> </ul>
SIDE PROJECTS	<b>C-H-ina: Online Hotel Searching Service</b> 02/2023 – 05/2023 <ul style="list-style-type: none"> <li>❑ Built a hotel lookup website with crawled detailed description and room data of 10,000+ hotels all over China from Booking.com.</li> <li>❑ Implemented the connection between the backend and the database as well as the modification and searching within the database.</li> <li>❑ Learnt to code in Java, JavaScript and SSM framework(Spring, Spring MVC, Mybatis).</li> </ul>
	<b>Industrial Big Data Inspection System</b> 07/2022 – 09/2022 <ul style="list-style-type: none"> <li>❑ Worked in a group of 5 to build an online industrial inspection system with dashboard.</li> <li>❑ Implemented an anomaly detection module using LOF-ICAD cooperating with InfluxDB.</li> <li>❑ Won Best Project Award for outstanding team project.</li> </ul>
	<b>Semantic Segmentation on CityScapes Dataset</b> 07/2021 – 08/2021 <ul style="list-style-type: none"> <li>❑ Worked in a group of 5 to use U-net for semantic segmentation on cityscapes dataset for autonomous driving.</li> <li>❑ Learnt to prepare the dataset and wrote an assessment report on the model performance.</li> <li>❑ Won certification of Completion of ML in Autonomous Driving, MIT and earned an A grade.</li> </ul>
HONORS AND AWARDS	Awarded <b>Meritorious Winner</b> of Interdisciplinary Contest in Modeling. 05/2022 Awarded <b>Tencent Scholarship</b> for being in top 10% students. 11/2021
EXTRA CURRICULAR ACTIVITIES	<ul style="list-style-type: none"> <li>• Completed <b>Osaka University Anniversary Lecture Series</b> in Quantum Information Science 05/2021 – 07/2021</li> <li>• Completed leadership program <b>Global Case Challenge, Washington State University</b> 04/2021 – 05/2021</li> </ul>
Skills	$\LaTeX$ , Python, C/C++, JavaScript, JAVA, Matlab, JMP, SQL, RapidMiner, Git, Swift