Jessica Maria Echterhoff

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Experience

Machine Learning Research Scientist Intern Apple Inc., Cupertino, USA *01/24–06/24*
Developed a LLM model update strategy minimizing regression by 40%

Machine Learning and Data Science Intern Microsoft Inc., Redmond, USA *06/23–09/23*
Developed a data-centric decision-making tool to evaluate hypothetical scenarios and reduce manual tabular data analysis

Machine Learning Research Intern Apple Inc., Cupertino, USA *06/22–09/22*
Provided a model-in-the-data-annotation-loop to automate an annotation task leading to up to 100% reduction of annotation volume

Machine Learning Research Intern Apple Inc., Heidelberg, Germany *07/21–12/21*
Provided proof of concept of a model-in-the-loop data annotation approach leading to 30% cost reduction

Software Developer Sidekick Interactive Inc., Montréal, Canada *02/19–08/19*
Built, maintained and tested 8 native iOS and 5 native Android applications for 5 different customers

Mobile Applications Developer Freelancer, Chile *12/18-01/19*
Leading iOS developer for implementation, maintenance and testing of an iOS application for a German learning-transfer startup

Software Engineer Everskill GmbH Munich, Germany *06/17–08/18*
Developed, maintained and tested functional and technical components of an iOS learning-transfer application

Advising Developer Barkawi Management Consultants GmbH & Co. KG Munich, Germany *05/16–01/17*
Coordinated the implementation of the user interface redesign for an American agricultural machinery manufacturer by leading the front-end development and customer validation process

Web Developer Lendico Deutschland GmbH Berlin, Germany *03/15–07/15*
Built a search engine optimized landing page by leading a 3-people student development team

Education

Doctor of Philosophy in Computer Science University of California, San Diego, USA *04/22–ongoing*
Research on human and data centric machine learning; GPA: 3.6/4.0; Expected graduation in December 2024

Master of Science in Machine Learning University of California, San Diego, USA *09/19–03/22*
Specialization in applied machine learning; Research in human centered computing; GPA: 3.44/4.0

Exchange Semester Information Technology École de Technologie Supérieure Montréal, Canada *09/18–12/18*
Specialization in machine learning and software engineering in a French speaking program; GPA: 3.73/4.3

Bachelor of Science in Informatics Technical University Munich, Germany *04/16–03/19*
Minor in business administration; Thesis: "Gait and Jump Classification in Equestrian Sports" (grade 1.0); GPA: 2.2 (1.0 best–4.0 worst)

Bachelor of Science in Management and Technology Technical University Munich, Germany *10/13–09/16*
Minor in informatics and finance; Thesis: "CSR Reporting and Capital Market Reactions" (grade 2.0); GPA: 2.5 (1.0 best–4.0 worst)

Exchange Semester Intensive Chinese Language Course Zhejiang University Hangzhou, China *09/15–12/15*
Studies of Chinese culture and language in an intensive intercultural program

Skills

Languages German (Native), English (C2), French (B2), Mandarin (HSK1)
Programming Python, PyTorch, SQL, C++, JavaScript, Swift, HTML, CSS, Java, Kotlin, Tensorflow, Objective-C, C

Scholarships and Fellowships

Apple Scholars in AI/ML Fellowship *2023–2025*
Selected to receive a research fellowship based on academic and research excellence

Women in Machine Learning Scholarship to attend ICLR Virtual Conference *05/21*
Graduate Women in Computing Scholarship to attend Grace Hopper Celebration Virtual Conference *09/20*

Electrical and Computer Engineering Fellowship University of California, San Diego, USA *09/19–06/20*
Selected to receive a research fellowship based on academic fit to the department's research endeavors (56,000US$)

Scholarship to Attend Research Conferences ACM-W *10/18*
Selected by ACM to be funded to present my paper at Ubicomp/ISWC 2018

ACM Scholarship to Attend Summer School Haifa, Israel *10/18*
Selected to attend a fully funded summer school for social signal processing, displays and interaction with smart environments

Entrepreneurial Research Scholarship Tsinghua University Beijing/Technical University Munich *07/17–09/17*
Selected as part of a high-potential team to attend a fully funded exchange program to expand business ideas in China

e-Fellows Scholarship Munich, Germany *04/13–04/15*
Selected as one of the best German-speaking high-potential candidates based on school GPA

Projects and Prizes

Internship work was presented as a poster Apple Data Science Summit and Apple Machine Learning Summit *12/21 || 2/22*
Summited Europe's Highest Mountain (15,774 ft/4,808 m) Mont Blanc, France *08/21*

Finisher Int. Bad Pyrmont Marathon (1st in age group, 21/146 overall) Bad Pyrmont, Germany *07/20*

Graduate Student Service Award University of California, San Diego, USA *06/20*

Awarded for outstanding support and service by helping prospective students connect to potential advisors

Winning Team TechFest Hackathon and Osram/Adidas Challenge Munich, Germany *09/16*

Won 1st place with two colleagues by developing a smart cycling jacket to prevent accidents in traffic (297 participants)

3rd Place Startup Weekend Hangzhou, China *11/15*

Won 3rd place with two colleagues by developing an iOS application to connect athletes in China (50 participants)

Service

Reviewer ACM WebConf ('21,'23); UbiComp/ISWC Conference ('20); IEEE JBHI ('19)

Mentor UCSD Grad Women in Computing ('21); UCSD ECE GradPal ('21,'22)

Volunteer UbiComp/ISWC ('20); ICML ('20); ACI Conference ('18); Web Summit ('17)

Teaching

Neural Networks/Pattern Recognition; Recommender Systems; Big Data Analysis UC San Diego *2022*

Object-Oriented Programming; Rapid Software and Hardware Design UC San Diego *2021*

Advanced Topics in Software Engineering UC San Diego *2020*

Publications

06/2024 — **Jessica Maria Echterhoff,** Fartash Faghri, Raviteja Vemulapalli, Ting-Yao Hu, Chun-Liang Li, Oncel Tuzel, Hadi Pouransari; **"MUSCLE: A Model Update Strategy for Compatible LLM Evolution"**, Under Submission

06/2024 — Haozhe Xu, Zhankui He, **Jessica Maria Echterhoff,** Xiaoqing Zheng, Julian McAuley; **"Are Automatic Evaluations Consistent with User Studies? A Meta-Evaluation for Conversational Recommendation"**, Under Submission

06/2024 — **Jessica Maria Echterhoff,** Yao Liu, Abeer Alessa, Julian McAuley and Zexue He; **"Cognitive Bias in High Stakes Decision-Making with LLMs"**, Under Submission

06/2024 — Jessica De Souza, Varun Viswanath, **Jessica Maria Echterhoff,** Kristina Chamberlain, Edward Jay Wang; **"Augmenting Tele-Postpartum Care With Vision-Based Detection of Breastfeeding-Related Conditions: Algorithm Development and Validation"**, Journal of Medical Internet Research AI

03/2024 — Junda Wu, **Jessica Maria Echterhoff,** An Yan, Kyungtae Han, Amr Abdelraouf, Rohit Gupta, Julian McAuley; **"PDB-Eval: An Evaluation of Large Multimodal Models for Description and Explanation of Personalized Driving Behavior"**, Under Submission

01/2024 — **Jessica Maria Echterhoff,** Aditya Melkote, Sujen Kancherla and Julian McAuley; **"Avoiding Decision Fatigue in Recommendation with AI-Assisted Decision-Making"**, 2024 ACM Conference on User Modeling, Adaptation and Personalization (UMAP)

01/2024 — Se-eun Yoon, Zhankui He, **Jessica Maria Echterhoff,** and Julian McAuley; **"Evaluating Large Language Models as Generative User Simulators for Conversational Recommendation"**, 2024 Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL)

01/2024 — **Jessica Maria Echterhoff,** An Yan, Kyungtae Han, Rohit Gupta, Amr Abdelraouf and Julian McAuley; **"Driving through the Concept Gridlock: Unraveling Explainability Bottlenecks in Automated Driving"**, 2024 Winter Conference on Applications in Computer Vision

09/2023 — **Jessica Maria Echterhoff,** Bhaskar Sen, Yifei Ren, Nikhil Gopal; **"Should you make your decisions on a WhIM? Data-Driven Decision making using a What-If Machine for Evaluation of Hypothetical Scenarios"**, arXiv:2309.17364

06/2023 — **Jessica Maria Echterhoff** and Julian McAuley; **"Comparing Comparisons: Generating Aspect-Aware Comparative Sentences"**, arXiv Preprint, arXiv:2307.03691

03/2022 — **Jessica Maria Echterhoff,** Matin Yarmand, and Julian McAuley; **"AI-Moderated Decision Making: Capturing and Balancing Anchoring Bias in Sequential Decision Tasks"**, Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems

11/2021 — Yinan Xuan, Varun Viswanath, Sunny Chu, Owen Bartolf, **Jessica Maria Echterhoff** and Edward J. Wang; **"SpecTracle: Wearable Facial Motion Tracking from Unobstructing Peripheral Cameras"**, arXiv Preprint, arXiv:2308.07502

08/2020 — **Jessica Maria Echterhoff** and Edward J. Wang; **"PAR: Personal Activity Radius Camera View for Contextual Sensing"**, arXiv Preprint, arXiv:2008.07204

12/2018 — **Jessica Maria Echterhoff,** Juan Haladjian and Bernd Brügge; **"Gait Analysis in Horse Sports"**, Proceedings of the Fifth ACM International Conference on Animal-Computer Interaction 2018

10/2018 — **Jessica Maria Echterhoff,** Juan Haladjian and Bernd Brügge; **"Gait and Jump Classification in Modern Equestrian Sports"**, Proceedings of the 2018 ACM International Symposium on Wearable Computers