Jessica Maria Echterhoff

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Experience

Machine Learning Research Scientist Intern Apple Inc., Cupertino, USA *01/2024–06/2024*
Developed knowledge distillation fine-tuning leading to 40% less performance degradation when updating LLM versions

Machine Learning and Data Science Intern Microsoft Inc., Redmond, USA *06/2023–09/2023*
Automated tabular data analysis with Bayesian optimization, to evaluate hypothetical scenarios, and recommend optimization avenues

Machine Learning Research Intern Apple Inc., Cupertino, USA *06/2022–09/2022*
Automated human data annotation tasks leading to up to 100% reduction of annotation volume using ML-in-the-annotation-loop

Machine Learning Research Intern Apple Inc., Heidelberg, Germany *07/2021–12/2021*
Provided a model-in-the-loop data annotation approach to optimize human annotations leading to 30% cost reduction

Software Engineer Sidekick Interactive Inc., Montréal, Canada *02/2019–08/2019*
Built, maintained and tested 8 native iOS and 5 native Android applications for 5 different customers

Software Engineer Freelancer, Chile *12/2018-01/2019*
Leading iOS developer for implementation, maintenance and testing of an iOS application for a German learning-transfer startup

Software Engineer Everskill GmbH Munich, Germany *06/2017–08/2018*
Developed, maintained and tested functional and technical components of an iOS learning-transfer application

Education

Doctor of Philosophy in Computer Science UC San Diego, USA *04/2022–ongoing*
Thesis: "Peopleware: Designing Machine Learning for Human Realities"; GPA: 3.6/4.0

Master of Science in Machine Learning UC San Diego, USA *09/2019–03/2022*
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 *09/2018–12/2018*
Specialization in machine learning and software engineering (French program); GPA: 3.73/4.3

Bachelor of Science in Informatics Technical University Munich, Germany *04/2016–03/2019*
Minor in business administration; Thesis: "Gait and Jump Classification in Equestrian Sports"; GPA: 2.2/1.0 (lower is better)

Bachelor of Science in Management and Technology Technical University Munich, Germany *10/2013–09/2016*
Minor in informatics and finance; Thesis: "Social Responsibility Reporting and Capital Market Reactions"; GPA: 2.5/1.0 (lower is better)

Exchange Semester Intensive Chinese Language Course Zhejiang University Hangzhou, China *09/2015–12/2015*
Studies of Chinese culture and language in an intensive intercultural program

Skills

Languages German, English (*Fluent*); French (*Conversational*); Mandarin, Spanish (*Familiar*)

Relevant Graduate Coursework Neural Networks and Pattern Recognition, Generative AI, Linear Algebra, Statistical Learning, Machine Learning for Image Processing, Computational Data Analysis, Programming for Data Analysis, Principles in Software Engineering, Information Visualization, Computational Modeling of Cognition

Programming Python, PyTorch, Transformers (*proficient*); SQL, C++, JavaScript, Swift, HTML/CSS (*competent*); MATLAB, Java, Kotlin, Tensorflow, O-Caml, Objective-C, C (*familiar*)

Scholarships and Fellowships

Apple Scholars in AI/ML PhD Fellowship *2023–2025*
Women in Machine Learning Scholarship to attend ICLR Virtual *2021*
Graduate Women in Computing Scholarship to attend Grace Hopper Celebration Virtual *2020*
UCSD Electrical and Computer Engineering Fellowship (56,000US$) *2019–2020*
ACM-W Scholarship to present at Ubicomp/ISWC Singapore *2018*
ACM Scholarship to Attend Summer School Israel *2018*
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 *2017*
Selected as part of a high-potential team to attend a fully funded exchange program to expand business ideas in China

Projects and Prizes

Internship work selected as posters Apple Data Science and Machine Learning Summit *2021–2022*
Graduate Student Service Award UC San Diego, USA *2020*
Awarded for helping prospective students connect to potential advisors

Winning Team TechFest Hackathon and Osram/Adidas Challenge Munich, Germany *2016*
Developed a smart cycling jacket to prevent accidents in traffic (297 participants)

3rd Place Startup Weekend Hangzhou, China *2015*
Developed an iOS application to connect athletes in China (50 participants)

Service and Professional Engagement

Invited Talks Patronus AI ('25); Apple ('24); TSMC ('24); Microsoft ('24); Stanford ('24)

Reviewing ACL, DL4C@ICLR, KDD, INTERACT, ACM TIST, Medical Decision Making ('25); ACM WebConf ('21,'23,'24); UbiComp/ISWC ('20); IEEE JBHI ('19)

Volunteering Student mentorship @ACL ('25); UbiComp/ISWC ('20); ICML ('20); ACI Conference ('18); Web Summit ('17)

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

Research Mentoring Abeer Alessa, Akshaya Lakshminarasimhan, Param Somane, Aditya Melkote, Sujen Kancherla (@UCSD); Yao Liu (now @CMU); Purva Kothari (now @Apple); Divja Dervala (now @Sony); Heeket Mehta (now @Aeries)

Teaching

Neural Networks and Pattern Recognition Prof. Gary Cottrell, UC San Diego	*2022*
Recommender Systems Prof. Julian McAuley, UC San Diego	*2022*
Big Data Analysis Prof. Yoav Freund, UC San Diego	*2022*
Object-Oriented Programming Prof. Vikash Gilja, UC San Diego	*2021*
Rapid Software and Hardware Design Prof. Edward Wang, UC San Diego	*2021*
Advanced Topics in Software Engineering: Ubiquitous Computing Prof. Nadir Weibel, UC San Diego	*2020*

Selected Publications

How Much Content Do LLMs Generate That Induces Cognitive Bias in Users?   2025
Abeer Alessa, Akshaya Akshminarasimhan, Param Somane, Julian Skirzynski, Julian McAuley, **Jessica Echterhoff**
Under Submission

PDB-Eval: Evaluating Multimodal Models for Description and Explanation of Personalized Driving Behavior   2025
Junda Wu, **Jessica Echterhoff**, An Yan, Kyungtae Han, Amr Abdelraouf, Rohit Gupta, Julian McAuley
Accepted to 2025 IEEE Intelligent Vehicles Symposium

MUSCLE: A Model Update Strategy for Compatible LLM Evolution   2024
Jessica Echterhoff, Fartash Faghri, Raviteja Vemulapalli, Ting-Yao Hu, Chun-Liang Li, Oncel Tuzel, Hadi Pouransari
2024 Conference on Empirical Methods in Natural Language Processing (EMNLP Findings)

Cognitive Bias in Decision-Making with LLMs   2024
Jessica Echterhoff, Yao Liu, Abeer Alessa, Julian McAuley and Zexue He
2024 Conference on Empirical Methods in Natural Language Processing (EMNLP Findings)

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

Augmenting Tele-Postpartum Care With Vision-Based Detection of Breastfeeding-Related Conditions   2024
Jessica De Souza, Varun Viswanath, **Jessica Echterhoff**, Kristina Chamberlain, Edward Jay Wang
Journal of Medical Internet Research AI

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

Driving through the Concept Gridlock: Unraveling Explainability Bottlenecks in Automated Driving   2024
Jessica Echterhoff, An Yan, Kyungtae Han, Rohit Gupta, Amr Abdelraouf and Julian McAuley
2024 Winter Conference on Applications in Computer Vision (WACV)

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

Gait Analysis in Horse Sports   2018
Jessica Echterhoff, Juan Haladjian and Bernd Brügge
Proceedings of the Fifth ACM International Conference on Animal-Computer Interaction 2018

Gait and Jump Classification in Modern Equestrian Sports   2018
Jessica Echterhoff, Juan Haladjian and Bernd Brügge
Proceedings of the 2018 ACM International Symposium on Wearable Computers (ISWC)