

AMEL AWADELKARIM

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EDUCATION

Ph.D. in Computational and Mathematical Engineering , Stanford University <i>Advised by: Johan Ugander. NSF Graduate Research Fellow. Gene Golub Dissertation Award.</i>	Sept 2017 - Dec 2023
M.S. in Engineering Science & Mechanics , The Pennsylvania State University <i>Outstanding Thesis Award.</i>	Aug 2016 - Dec 2017
B.S. in Engineering Science & Mechanics , The Pennsylvania State University	Aug 2012 - Dec 2016

TECHNICAL HIGHLIGHTS

Research Interests	Content-understanding, ranking and recommendation, large language models, network science
Languages & Tools	Python (Numpy, pandas, PyTorch, NetworkX, Matplotlib, Jupyter notebook), SQL, C++, Git, Hive, Presto

WORK EXPERIENCE

Meta, Research Scientist Jul 2024 - Current
Menlo Park, CA

- Work within Central Applied Science (CAS) on GenAI for content understanding; utilizing large language models (LLMs) to label content at scale across ads and organic content, for use in downstream monetization and personalization tasks.
- Enlisting auto prompt optimization (APO) techniques to achieve highest quality content labels, and applying knowledge distillation techniques to translate LLM labels to cheaper student classifier for real-time signal logging.

Meta, Research Scientist Intern Oct 2023 - Mar 2024
Menlo Park, CA

- Engineered features for ads-ranking models based on comment-engagement signals, for use across Meta's Family of Apps.
- Built features that leverage comment and ad metadata, text (processed at a large-scale using Meta's large language model, LLaMA), and graph-based features of the user-ads bipartite comment network.
- Estimated \$2M annual increase in ads revenue due to features developed in my internship.

Google, Software Engineering Intern Jun 2019 - Sept 2019
Mountain View, CA

- Developed an alternative score to the average star-rating of Google Maps features (places) based on Bayesian skill-based rating systems, implemented in C++.
- Average star-ratings suffer from the cold-start problem – our score better captures quality of scarcely-rated features by leveraging head-to-head comparisons of similar features within the same user's ratings.
- New feature score improves accuracy by up to 10% in predicting binary comparisons between features with few star ratings.

PUBLICATIONS

[Modeling top- \$k\$ partial orders](#), with J Ugander (KDD 2024).

[Algorithms, statistical models, and their applications to real-world networks and choice systems](#), PhD Thesis (Stanford 2023).

[Rank-heterogeneous preference models for school choice](#), with A Seshadri, I Ashlagi, I Lo, and J Ugander (KDD 2023).

[Prioritized restreaming algorithms for balanced graph partitioning](#), with J Ugander (KDD 2020).

PRESENTATIONS

KDD 2024, Oral and poster presentation, “Statistical modeling of top- k partial orders”, [Promotional video](#).

KDD 2023, Oral and poster presentation, “Rank-heterogeneous preference models for school choice”, [Promotional video](#).

IC2S2 2022, Poster presentation, “Improved preference modeling for school choice”.

NeurIPS WHMD 2021, Contributed talk and poster, “Designing defaults for school choice”, [Recorded talk](#).

KDD 2020, Oral and poster presentation, “Prioritized restreaming algorithms for balanced graph partitioning”, [Slides](#).

SIAMNS 2020, Contributed talk, “Prioritized restreaming algorithms for balanced graph partitioning”, [Abstract](#).

Stanford SWIMM Seminar 2020, Seminar talk, “Prioritized restreaming algorithms for balanced graph partitioning”.

Stanford Machine Learning Symposium 2018, Poster presentation, “Training a playlist curator based on user taste”.