Contact

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**EDUCATION** 

### Brown University, Providence, Rhode Island USA

Ph.D. Computer Science, May 2020

• Dissertation Topic: "Personalized Systems for Guided and Flexible Self-Experiments"

Updated: Dec 1, 2023

• Advisor: Prof. Jeff Huang

### Grinnell College, Grinnell, Iowa USA

B.A. with honors, Computer Science, May 2014

KEY SKILLS

- Technical: machine learning; Python; SQL; data mining, analysis, and visualization.
- Generative AI: fine-tuning, and evaluating AI models.
- UX Research: mixed methods researcher, various methodologies (usability studies, contextual inquiry, surveys, interviews, diary studies, participatory workshops); low and high fidelity prototyping, proficient with Figma, Protopie, Sketch, Balsamiq, and InVision.
- **Product:** Cross-functional collaboration and effective communication with engineers, data scientists, researchers, designers, PMs, and leadership.

Key Achievements

#### Human-In-The-Loop Research

- Lead research on the human aspect of ML, pushing the state-of-the-art in reinforcement-learning-driven recommender system interfaces.
- Synthesized scientific literature and collaborated with RL researchers, engineers, and product teams on building interactive prototypes.
- Co-authored a publication accepted at RL4HCI workshop at CHI 2021.
- Co-taught a practical reinforcement learning course for Spotifiers (5 cohorts, 97 participants).

## Generative AI Research

- Collected LLM training data, developed metrics for quality and errors in Spotify's AI DJ, and created LLM-powered exploratory prototypes.
- Conducted UX evaluation and investigation of LLM-generated content using qualitative and quantitative methods.

#### Interactive Prototyping

- Created early-stage proof-of-concept prototypes for four Spotify products launched in 2021-2023 and one in production for 2024.
- Developed and evaluated low and high-fidelity prototypes using a mixed-methods approach

#### Personalized Discovery

- Conducted foundational research on personalized discovery in music and podcasts, and hosted two
  intern projects related to that, leading to peer-reviewed paper publications and lasting product
  impact.
- TastePaths: an interactive web tool for user exploration of genre-space via a graph of connected artists.
- GoalPods: an app allowing users to explore, set podcast-related goals, and receive goal-focused episode recommendations.

## RESEARCH EXPERIENCE

# Spotify, Research Scientist

July 2020 - present

Conducted mixed-methods research studies focused on human-in-the-loop for ML and AI evaluation around music and podcast listening. Collaborating with cross-functional teams to design, develop, and evaluate novel prototypes of future features at Spotify.

## Brown University, Graduate Student

August 2014 - May 2020

Collaborated with sleep clinicians and behavior change researchers on developing systems for self-experiments through user studies, prototyping, and programming the back-end server of the systems.

#### Instagram UX Research, Research Intern

June - August 2018

Worked with Sebastian Fite on Instagram's Discovery Explore team. Conducted in-lab usability studies, a diary study, and online surveys. Collaborated closely with a team of data scientists, designers, PMs.

#### Microsoft Research, Research Intern

April - June 2017

Worked with a team of data scientists UX researchers on building a system to generate personalized recommendations for improving sleep. Analyzed 40 million Microsoft Band sleep records.

#### Yahoo UX Research, Research Intern

June - August 2016

Worked with Frank Bentley on all communications products at Yahoo: weekly in-lab user studies, diary studies, and online surveys. Conducted research on the use of email and coupons in email.

# RESEARCH PROJECTS

# SleepCoacher (available on Google Play store and App Store)

Developed a system, SleepCoacher, which guides users through single-case experiments for sleep by collecting raw mobile sensor data and generating personalized, data-driven recommendations.

# Self-E (available on Google Play Store)

Developed a system, Self-E, which guides novice self-experimenters through the steps of conducting a single-case experiment and applies a Thompson Sampling technique to automatically analyze the data.

# SELECTED PUBLICATIONS

Yu Liang, A.Ponnada, P. Lamere, **N. Daskalova**. "Enabling Goal-Focused Exploration of Podcasts in Interactive Recommender Systems." Intelligent User Interfaces (IUI) 2023. (24% acceptance rate)

- S. Petridis, **N. Daskalova**, S. Mennicken, S. Way, P. Lamere, J. Thom. "TastePaths: Enabling deeper exploration and understanding of personal preferences in recommender systems." Intelligent User Interfaces (IUI) 2022. (24.5% acceptance rate)
- N. Daskalova, S. Mennicken, C. Chen, J. Thom. "User-Centric Design Methods for Reinforcement Learning." RL4HCI Workshop paper, CHI 2021.
- N. Daskalova, E. Kyi, K. Ouyang, A. Borem, S. Chen, S.H. Park, N. Nugent, and J. Huang "Self-E: Practical Self-Experiments." CHI 2021.
- N. Daskalova, Y. Wang, C. Araujo, G. Beltran, J. Yoon, N. Nugent, J. Williams, and J. Huang "SleepBandits: Guided Flexible Self-Experiments for Sleep." CHI 2020.
- N. Daskalova, B. Lee, J. Huang, C. Ni, J. Lundin. "Investigating the Effectiveness of Cohort-Based Sleep Recommendations." Ubicomp 2018. (acceptance rate 27.9%).
- F. Bentley, N. Daskalova, N. Andalibi. "If a person is emailing you, it just doesn't make sense": Exploring Changing Consumer Behaviors in Email." CHI 2017. (acceptance rate 25%)
- N. Daskalova, D. Metaxa-Kakavouli, A. Tran, N. Nugent, J. Boergers, J. McGeary, and J. Huang. "SleepCoacher: A Personalized Automated Self-Experimentation System for Sleep Recommendations." UIST 2016. (acceptance rate 20.6%)