Jeng-Yu Chou

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Education

University of Massachusetts Amherst Expected Graduation:
MS/PhD Program in Computer Science May 2027

- GPA: 3.907/4.0
- **Coursework:** Secure Distributed Systems, Adv. Algorithms, Natural Language Processing, Neural Networks

University of Massachusetts Amherst Sep 2018 – Dec 2021
BS in Computer Science

- GPA: 3.869/4.0
- **Coursework:** Computer & Network Security, Applied Cryptography, Algorithms for Data Science

Skills

Programming. Python (Pandas, Numpy), JavaScript, TypeScript

Research Experience

UMass Rescue Lab, advised by Prof. Brian Levine Amhert, MA

Graduate Research Assistant Sep 2022 - Present

- Constructing an AI-based content moderation pipeline and investigating how AI can be effective in detecting and preventing harmful multimodal content
- Investigated risks to youth and dynamics of illicit activities on individual social media platforms
- Collected and analyzed post text of the social media app, Whisper, across personas representing different demographics using Android Studio, Appium, and MITMproxy for automated data scraping and storage
- Trained and evaluated LLMs (Llama2, RoBERTa) to classify content by maturity and app age suitability
- Presented a quantitative analysis of the Whisper app, characterizing content to reveal risks to children's online safety and challenges in addressing illicit activities in digital environments

Undergraduate Research Assistant Jun 2021 – Dec 2021

- Evaluated dangers posed to minors on social applications
- Utilized Python libraries and Twitter and Discord APIs to scrape and analyze toxicity patterns in text data

Publications

A Quantitative Analysis of Inappropriate Content, Age Rating Compliance, and Risks to Youth on the Whisper Platform
Jeng-Yu Chou and Brian Neil Levine
International Workshop on Child Online Safety and Harms (COSH), Jul. 2024. *paper*

Enabling Cross-Platform Comparison of Online Communities Using Content and Opinion Similarity
Prasanna Lakkur Subramanyam, **Jeng-Yu Chou**, Kevin Nam, and Brian Neil Levine
Findings of EMNLP, Nov. 2024.

Work Experience

University of Massachusetts Amherst Amherst, MA

Teaching Assistant - CMPSCI 563 Internet Law and Policy Sep 2024 - Dec 2024

- Created answer keys and grading rubrics for exams, case briefs, and other assignments
- Delegated tasks to course staff and assisted faculty in creating and grading homework, exams, and projects

Teaching Assistant - CMPSCI 220 Programming Methodology — Jan 2024 - May 2024

- Conducted discussions and laboratory sessions, and prepared homework, lab, and exam problems
- Assisted faculty in grading homework (including computer programs), exams, and term projects

Automated Controversy Detection, Inc. — Amherst, MA

Software Developer — Sep 2020 - May 2021

- Developed Detoxify, a Chrome extension that filters and overlays posts on user-selected topics
- Constructed data mining web crawlers for text analysis using Elasticsearch and Kibana

Software Development Intern — May 2020 - Aug 2020

- Executed product development, testing, bug identification, and fixes

Leadership Experience

CSWomen Social Events Coordinator — Amherst, MA

University of Massachusetts Amherst — Dec 2023 - Present

- Organized social/networking events including collaborations with Voices of Data Science '24, UMass Amherst CICS Careers CSWomen Resume Workshop
- Building a support system for women in graduate school and the CICS community

Director of Outreach — Boston, MA

TechTogether Boston Hackathon — May 2020 - Apr 2021

- Oversaw outreach initiatives at the high school, collegiate, and post-grad levels

Co-Founder — Amherst, MA

Microbial Identifier: iSPY Startup — Feb 2019 - May 2020

- Utilized Google AutoML Vision to identify morphology of bacteria
- UMass Innovation Challenge third place (raised $7,500) and won three categories at HackHer413

Projects

Stochastic Meta-Learning for Augmentation Policy (SMAP): Enhancing Fine-Grained Image Classification — Dec 2023

github: SMAP

- Developed a novel optimized augmentation policy, Stochastic Meta-Learning for Augmentation Policy (SMAP), that leverages meta-learning to optimize augmentation strategies for enhanced classifier performance
- Utilized a ResNet-50 model as the backbone classifier and compares the impact of SMAP against traditional usage of augmentation techniques

Examining Medical Narratives of Eating Disorder Recovery on Reddit — May 2023

github: narrative-analysis

- Fine-tuned BERT-based models to identify narratives in Reddit data
- Utilized ChatGPT instructin prompting for trigger and factor extraction and experimented with custom and NLTK stop words for topic modeling
- Employed SentProp (Hamilton et al., 2016) algorithm to generate domain-specific sentiment lexicons