Amin Hosseiny Marani

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EDUCATION

Lehigh University, Bethlehem, PA *August 2018 - Present*
PhD, Computer Science GPA: 3.63/4
Relevant Coursework: Advanced Programming, Social Computing, Data Mining, Machine Learning, NLP
Iran University of Science and Technology, Tehran, Iran *2011 - 2014*
Master of Computer Engineering GPA: 15.13/20
Relevant Coursework: Machine learning, Distributed AI, Neural Networks, Pattern Recognition
Shahid Chamran University, Ahvaz, Iran *2007 - 2011*
Bachelor of Computer Engineering GPA: 14.53/20 (Top 5%)

PUBLICATION

Amin Hosseiny Marani, Sejal Sarkar, Anjali Devakumar, Jordyn Seybolt, Munmun De Choudhury, and Eric P. S. Baumer. 2023. Taking a Break, or Making a Change? How Analyzing Social Media Non-use Can Help Us Understand Eating Disorder Recovery. *Submitted to* ACM, In Proceedings of the 2023 CHI conference on human factors in computing systems.

Amin Hosseiny Marani and Eric P. S. Baumer. 2022. A Review of Stability in Topic Modeling: Metrics for Assessing and Techniques for Improving Stability. *Submitted to* ACM Computing Surveys (CSUR).

Allison Mickel, Adam Heidebrink-Bruno, **Amin Hosseiny Marani**, Isabel Barone, Olivia Lee, and Eric P.S. Baumer. 2022. The Cultural Production of Everyday Ethics in Two University STEM Labs. *Submitted to* Bulletin of science, technology society.

Amin Hosseiny Marani, Joshua Levine, and Eric P. S. Baumer. 2022. One Rating to Rule Them All? Evidence of Multidimensionality in Human Assessment of Topic Labeling Quality. In Proceedings of the 31st ACM International Conference on Information and Knowledge Management (CIKM 22), October 17–21, 2022, Atlanta, GA, USA. ACM, New York, NY, USA, 12 pages.

Baumer, E.P.S. and **Hosseiny Marani, A.** (2020). Bias as a Distinct Factor in Human Ratings of Machine Labeling. in Human-Centered Approach to Fair Responsible AI at ACM Conference on Human Factors in Computing Systems (CHI), (Honolulu, HI).

EXPERIENCE

Dana-Farber Cancer Institue | Harvard Medical School Boston, MA
NLP Data Scientist (internship) *April 2021 - January 2022*

- Developed a new clinical text retrieval system using a combination of **database APIs, traditional machine learning methods, and deep learning transformers**.

- Developed an automatic pipeline for clinical Named Entity Recognition and Relation Extraction using a new combinations of text features and **Deep Learning Transformers**.

- Improved NER performance by employing a new loss function and using **PyTorch** library.

- Improved Relation Extraction performance using **Knowledge Graph Neural Networks** and **BioBert**.

DESIGN, ALGORITHMS, AND SOCIETY (DAS) LAB Lehigh University, Bethelehem, PA
Graduate Research Assistant *2018-present*

- Introduced a new **Human-Centered machine learning** Assessment approach for labeling techniques

- Extracted trends and topics of Covid-19 messages across social media and designed a predictive Covid-19 models using **topic modeling, linear regression, and model selection** tools.

- Designed a **CNN** to extract topics and connected to an **LSTM** to translate texts.

- Developed and analyzed a novel topic labeling and frame labeling **human assessment** method.

- Designed a novel **NLP human assessment** method and analyzed the assessment using **statistical analysis**

- Designed a **word embedding** based approach for **topic labeling**.

- Developed a new **interactive topic visualization method with R** to increase readability and stability.

- Improved Retinopathy classification using **CNN** and enhanced Retinal images using **GAN**.

Shahid Chamran University Ahvaz, Iran
Teacher And Advisor *2015-2017*

- **Taught** 5 courses (Advanced Programming and Algorithms) and **advised** 5 undergraduate students.

Complex Systems Lab   Iran University of Science and Technology, Tehran, Iran
Graduate Research Assistant   *2010-2013*

- Developed a Holonic Multi-Agent **recommender system** using **Map-Reduce** and **Sarl-Java**

- Designed a novel chaotic Boltzmann **neural network** to speed up the convergence.

Mobin Information Technology Research Center   Tehran, Iran
Java Developer   *2011-2012*

- **Led** the localization of communication component of the **Java** Business Process Management (jBPM)

SKILLS

Programming Languages:	(Proficient)R, Python, Matlab; (Familiar) C#, Java, C, C++
Frameworks and Tools:	Mallet, TensorFlow, PyTorch, Sk-Learn, Map-Reduce, Bert, Transformers

SERVICES AND ACTIVITIES

Reviewer   NeuroComputing Journal
Reviewer of an Elsevier journal in the field of neural networks and machine learning   *2017-present*

Reviewer   SAGE Open
Reviewer of SAGE Journals in the field of topic modeling and social science   *2021-present*

Reviewer   ACM CHI
Reviewer of ACM CHI conference in Human-Computer-interaction and NLP applications   *2021-present*

CSE Department Representative   Lehigh University, Bethlehem, PA
the Graduate Student Senate   *2020-present*

Member of Upsilon Pi Epsilon society   2021-present

President and Vice of the Iranian Students Association at Lehigh University (LUISA) 2021-present

Secretary of Graduate Student Senate at Lehigh University   2022-present

AWARDS

SIGIR Student Grant   2022