

HASSAN HAMAD

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PROFILE

- » PhD candidate at USC with focus on deep learning, NLP and LLMs (anticipated graduation in December 2024)
- » Expertise in developing large language models (LLMs) for information extraction and conversational AI.
- » Experienced in applying advanced AI techniques to real-world industry applications.

EDUCATION

📅 2019/08–present	PhD in Electrical and Computer Engineering University of Southern California (USC)	📍 Los Angeles, CA
	» Focus on efficient training of deep learning models, especially on NLP tasks	
	» Cumulative GPA: 4.0/4.0	
📅 2016/09–2019/05	M.S. in Communications Engineering Technical University of Munich (TUM)	📍 Munich, Germany
	» Focus on Information Theory and Wireless Communications	
	» Cumulative GPA: 3.9/4.0	
📅 2012/09–2016/06	B.E. in Computer and Communications Engineering Notre Dame University - Louaize	📍 Zouk Mosbeh, Lebanon
	» Focus on Algorithms, Digital Coding and Wireless Communications	
	» Cumulative GPA: 3.9/4.0	

WORK EXPERIENCE

📅 2024/05–2024/08	Applied Scientist Intern Amazon	📍 Seattle, WA
	» Developed LLM-based solutions to improve task-oriented dialogue systems.	
📅 2023/05–2023/08	Quantitative Machine Learning Intern Bloomberg	📍 New York, NY
	» Enhanced information extraction capabilities through LLMs in financial data.	
📅 2019/02–2019/06	Working Student - Machine Learning Fraunhofer	📍 Munich, Germany
	» Explored the use of RNNs for predicting latency of a V2V communication link.	
📅 2017/05–2018/05	Working Student - LTE physical layer system engineer Intel	📍 Munich, Germany
	» Worked on a physical layer concept to implement the V2X feature from 3GPP.	

TEACHING EXPERIENCE

📅 2018/10–2019/02	Lab Assistant for Communications Lab Technical University of Munich (TUM)	📍 Munich, Germany
	» Introduction to communication systems based on experiments and computer simulations.	

SOFTWARE SKILLS

Technology	Popularity (approx.)
Python	95
PyTorch	85
C++	75
CUDA	70
Tensorflow	65
Linux	60
AWS	55
Docker	50

PENDING PUBLICATIONS

- » Towards a Self-Healing Mechanism for Large Language Models in Task-Oriented Dialogues.
 - 👤 H. Hamad, Y. Xu, and L. Zhao.
 - 🏛️ Under review at the *ACL Rolling Review (ARR)*.
 - » Bitwidth-Specific Logarithmic Arithmetic Towards Future Hardware Accelerated Training
 - 👤 H. Hamad and K.M. Chugg.
 - 🏛️ Under review at the *2024 Conference on Neural Information Processing Systems (NeurIPS)*.
 - » A Simple Approach to Leverage Synthetic Data for Named Entity Recognition in the Low-Data Regime
 - 👤 H. Hamad, S. Pulikodan, and K.M. Chugg.
 - 🏛️ Under review at the *Transactions of the Association for Computational Linguistics (TACL)*.

PAST PUBLICATIONS

- » FIRE: A Dataset for Financial Relation Extraction
 - H. Hamad, A. Thakur, S. Pulikodan, N. Koller and K.M. Chugg.
 - 🏛️ Findings of the 2024 Annual Conference of the North American Chapter of the ACL (NAACL).
 - » Approximation Capabilities of Neural Networks using Morphological Perceptrons and Generalizations
 - W. Chang, H. Hamad and K.M. Chugg.
 - 🏛️ In 2022 Asilomar Conference on Signals, Systems, and Computers.
 - » Joint State Sensing and Communication over Memoryless Multiple Access Channels
 - M. Kobayashi, H. Hamad, G. Kramer and G. Caire.
 - 🏛️ In 2019 IEEE International Symposium on Information Theory (ISIT).
 - » Performance Analysis of Convolutional Codes over the Bernoulli-Gaussian Impulsive Noise Channel
 - H. Hamad and G. M. Kraidy.
 - 🏛️ In 2017 15th Canadian Workshop on Information Theory (CWIT).
 - » Small-signal analysis of ultra-high-speed 30 GHz VCSELs using an advanced multi-mode approach
 - W. Hamad, M. Bou Sanayeh, H. Hamad, M. Hamad, S. Georges, and W. Hofmann.
 - 🏛️ In 2017 Proceedings of the Integrated Optics: Physics and Simulations III conference.

ACADEMIC ACHIEVEMENTS

2019/08–2020/08	Annenberg Fellowship recipient University of Southern California (USC)	Los Angeles, CA
2020/08–present	SLK America Fellowship recipient V-Labs (in partnership with SLK Software)	Los Angeles, CA

LANGUAGES

Arabic (native) English (fluent) German (basic)