

# Hassan Hamad

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## PROFILE

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- » Machine Learning PhD candidate at USC
- » Interested in problems related to training deep learning algorithms on a computational and data budget
- » My methods are applied to various tasks such as computer vision and NLP
- » Lately focused on NLP problems such as Named Entity Recognition and Relation Extraction

## EDUCATION

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- 📅 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**    📍 Lebanon  
» Focus on Algorithms, Digital Coding and Wireless Communications  
» Cumulative GPA: 3.9/4.0

## WORK

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- 📅 2019/02–2019/06    Working Student - Machine Learning  
**Fraunhofer**    📍 Munich, Germany  
» Developed and trained RNN architectures for predicting latency of a V2V communication link from channel measurements.
- 📅 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.
- 📅 2015/05–2015/08    Intern - 3GPP Mobile Standards  
**Ericsson**    📍 Beirut, Lebanon  
» Performed a detailed study of the different 3GPP mobile standards and the different software tools used by Ericsson for network monitoring.

## TEACHING EXPERIENCE

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- 📅 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.

## IT SKILLS

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Python	●●●●●●●●●●●●●●●●
C++	●●●●●●●●●●●●●●●●
PyTorch	●●●●●●●●●●●●●●●●
Tensorflow	●●●●●●●●●●●●●●●●
MATLAB	●●●●●●●●●●●●●●●●
Linux	●●●●●●●●●●●●●●●●
Git	●●●●●●●●●●●●●●●●
AWS	●●●●●●●●●●●●●●●●
Docker	●●●●●●●●●●●●●●●●
Latex	●●●●●●●●●●●●●●●●

## ACADEMIC ACHIEVEMENTS

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- 📅 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

## PUBLICATIONS IN PREPARATION

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- » **H. Hamad**, A. Kumar, and K.M. Chugg. **FIRE: A Financial Relation Extraction Dataset** *To be submitted in Spring 2023.*
- » **H. Hamad**, A. Kumar, and K.M. Chugg. **Training Convolutional Neural Networks using Logarithmic Number System** *To be submitted in Spring 2023.*
- » **H. Hamad**, A. Kumar, and K.M. Chugg. **A combined SSL-ACL approach to train Relation Extraction Models on a Low Data Budget** *To be submitted in Spring 2023.*

## PAST PUBLICATIONS

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

## LANGUAGES

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