Ketha Simran simiketha19@gmail.com
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Education:

- Pursuing Full time PhD in Computational Neuroscience (2020 – present)
  - BITS-Pilani - Hyderabad Campus - CSIS Department.
- M.Tech (Distinction) In Computational Eng. Focus on AI & DS (2018 – 2020)
  - 8.85 (CGPA) - Amrita University - Coimbatore
- B.E (Distinction) in Information Technology (2014 – 2018)
  - 81.9% - Osmania University - Hyderabad

Experience:

Three months as Academic Associate, Information Systems, IIM-Ahmedabad from 11.06.2020 to 10.9.2020. [Link]

Papers Submitted:

- Akarsh, S., **Simran, K**., Poornachandran, P., Menon, V. K., & Soman, K. P. (2019, March). Deep learning framework and visualization for malware classification. In *2019 5th International Conference on Advanced Computing & Communication Systems (ICACCS)* (pp. 1059-1063). IEEE.
- **Simran, K.**, Sriram, S., Vinayakumar, R., & Soman, K. P. (2019, December). Deep learning approach for intelligent named entity recognition of cyber security. In *International Symposium on Signal Processing and Intelligent Recognition Systems* (pp. 163-172). Springer, Singapore.
- **Simran, K.,** Balakrishna, P., Vinayakumar, R., & Soman, K. P. (2019, December). Deep learning approach for enhanced cyber threat indicators in Twitter stream. In *International Symposium on Security in Computing and Communication*(pp. 135-145). Springer, Singapore.
- **Simran, K**., Balakrishna, P., Vinayakumar, R., & Soman, K. P. (2019, December). Deep Learning Based Frameworks for Handling Imbalance in DGA, Email, and URL Data Analysis. In *International Conference on Computational Intelligence, Cyber Security, and Computational Models* (pp. 93-104). Springer, Singapore.
- Sriram, S., **Simran, K.**, Vinayakumar, R., Akarsh, S., & Soman, K. P. (2019, December). Towards evaluating the robustness of deep intrusion detection

models in adversarial environment. In *International Symposium on Security in Computing and Communication* (pp. 111-120). Springer, Singapore.

- Vinayakumar, R., Alazab, M., Srinivasan, S., Pham, Q. V., Padannayil, S. K., & **Simran, K.** (2020). A visualized botnet detection system based deep learning for the Internet of Things networks of smart cities. *IEEE Transactions on Industry Applications*, *56*(4), 4436-4456.
- Ravi, Vinayakumar & Alazab, Mamoun & Kp, Soman & Srinivasan, Sriram & Venkatraman, Sitalakshmi & Pham, Quoc-Viet & **Ketha, Simran.** (2021). Deep Learning for Cyber Security Applications: A Comprehensive Survey. 10.36227/techrxiv.16748161.
- Srinivasan, S., Ravi, V., Alazab, M., **Ketha, S**., Al-Zoubi, A. M., & Kotti Padannayil, S. (2021). Spam emails detection based on distributed word embedding with deep learning. In *Machine intelligence and big data analytics for cybersecurity applications* (pp. 161-189). Springer, Cham.
- Sai Aparna, T., **Simran, K**., Premjith, B., & Soman, K. P. (2021). Aspect-Based Sentiment Analysis in Hindi: Comparison of Machine/Deep Learning Algorithms. In *Inventive Computation and Information Technologies* (pp. 81-91). Springer, Singapore.

MOOC's completed:

- Machine Learning
- Introduction to TensorFlow for Artificial Intelligence, Machine learning and deep learning
- Deep learning Specialization
    - Neural Networks and Deep Learning [Link]
    - Improving Deep Neural Networks Hyperparameter tuning, Regularization and Optimization [Link]
    - Structuring Machine Learning Projects [Link]
    - Convolutional Neural Networks [Link]
    - Sequence Models

Neuromatch Academy Summer courses

- Computational neuroscience course and project (2021). [Link]
- Deep Learning course and project (2021). [Link]

Workshop / Symposium / Faculty Development Programmes attended/conducted:

- Attended FDP on Machine Learning with Business Applications conducted by **IIM-Bangalore** [Link].
- Attended FDP on Deep learning & its Applications conducted by **IT-Warangal**.
- Attended Indo-French Joint Workshop on Statistics and Artificial Intelligence for Data Science (SAIDS-2020) organized by Centre for Artificial Intelligence and Machine Learning, **ISI-Kolkata** [Link].
- **Conducted** a Training session in Machine Learning and NLP at **C-DAC Trivandrum** [Link].
- **Conducted** workshop on Implementation of Machine Learning for Signal Processing using Keras for M.Tech first year students.
- Attended Google Research India Graduate Symposium, held from April 7-10, 2021 [Link]
- Attended IndoML Symposium 2021, held from december 16-18, 2021.

Academic Projects undertaken:

- Different Word Embedding Algorithms For Part-of-Speech Tags (Sanskrit, Hindi, and Telugu): A comparative study using different word embeddings like word2vec, fastText, and BERT with three case studies namely, Sanskrit, Hindi, and Telugu. Used different machine learning algorithm for evaluation
- Fingerprint Classification: Binary classification of fingerprint data set which classifies a finger into Live and Fake. A comparative analysis is done using various pre-trained architectures.
- Human identification by Ear Recognition: Identification of humans with their respective ear alone using deep learning architecture by applying data augmentation on mobileNetV2 architecture. Achieved an accuracy of 90% with 155 subjects
- AI-based smart mirror - BE (IT) project

Github **LinkedIn** **Website**

K. Simran