CURRICULUM VITAE

Dr. N. Sameera,
Assoc. Professor,
Dept. of IT,
Sir C R Reddy College of Engg.,
Eluru,
AP.

Ph no: 8332856510
email: sameeracrrit@gmail.com

CAREER OBJECTIVE:

To excel in the field of teaching with the help of providing consistently improved skills and updated knowledge and performing research activities in the engineering disciplines.

EDUCATIONAL QUALIFICATION:

Qualification	Institute	University/Board	Specialization	Year of Passing	Percentage secured
Ph.D. (Full Time)	AU College of Engineering (A)	Andhra University	Machine Learning	2021	-----
PG	AU College of Engineering (A)	Andhra University	Computer Science and Technology	2013	8.63 (CGPA)
UG	Chirala Engineering College	JNTU Kakinada	Information Technology	2011	70.60
Inter/Diploma	Ponnur Residential College	Board of Intermediate Education	M.P.C	2007	93.00
SSC	Z.P.H. School, Chintalapudi	Board of Secondary Education	S.S.C	2005	86.17

PHD THESIS TITLE:

Machine Learning and Transfer Learning Approaches for Effective Handling of Known and Zero-day Attacks.

PROGRAMMING LANGUAGES KNOWN:

- C, C++, Java, R, Python

MEMBERSHIPS:

- AMIE

ACHIEVEMENTS:

- Guided a real time project named "**Automated Time Table Generator**"
- Ratified from Andhra University.
- Published a **SCI indexed** paper in ICT Express journal, **Elsevier** publication in the year 2020.
- Started a technical YouTube channel "Neeli's Galaxy" for B-Tech students.
- Published an article in ISEA magazine 2019, Ministry of Electronics & Information Technology (MeitY), Government of India.
- Selected for prestigious workshop conducted by Visvesvaraya PhD Scheme of the Ministry of Electronics & Information Technology (MeitY), Government of India, as one of the 27 candidates (out of 261) and presented in Chandigarh, Punjab.
- Participated as a resource person in Two-day workshop on "*Data Analytics Using R*" between 5th to 6th March 2018 at AU College of Engg. for Women, Andhra University.
- Got 3rd rank in Visvesvarayya PhD scheme-2016
- Qualified in APSET-2016
- Got 18th rank in PGECET Exam-2011
- Stood as school first in SSC Exam- 2005

TEACHING EXPERIENCE:

- Working as Asst. Professor in the department of IT, Sir C R Reddy College of Engineering, since 2014 June 23rd to till date.

ONLINE QUIZ ATTENDED:

- Taken part in the online quiz which is conducted as part of National Cyber Security Awareness Organised by ISEA project phase-II, programme by MeitY, Govt. of INDIA, on ***Cyber Ethics*** and secured 90%.
- Taken part in the online quiz which is conducted as part of National Cyber Security Awareness Organised by ISEA project phase-II, programme by MeitY, Govt. of INDIA, on ***Password Security*** and secured 90%.
- Taken part in the online quiz which is conducted as part of National Cyber Security Awareness Organised by ISEA project phase-II, programme by MeitY, Govt. of INDIA, on ***Facebook Security*** and secured 87%.
- Taken part in the online quiz which is conducted as part of National Cyber Security Awareness Organised by ISEA project phase-II, programme by MeitY, Govt. of INDIA, on ***Cyber Bullying*** and secured 70%.
- Taken part in the online quiz which is conducted as part of National Cyber Security Awareness Organised by ISEA project phase-II, programme by MeitY, Govt. of INDIA, on ***WhatsApp Security*** and secured 80%.

WORKSHOPS ATTENDED:

2021-22 (AY):

- Participated in two week online Short Term Training Program on "**Exploring Latest Trends in Big Data and Machine Learning**" approved by ISTE, New Delhi during 23/5/2022 to 2/6/2022.

- Participated in online elementary FDP on "**Machine Learning Applications on Image Processing**" under ATAL academy conducted by Nagarjuna college of Engineering & Technology during 17th January to 21st January, 2022.

- Participated in online FDP on "**Artificial Intelligence & Machine Learning**" conducted by Sir CRR College of Engineering in association with Dept. of CSE, NIT Warangal during 22nd November to 26th November, 2021.
- Participated in AICTE sponsored STTP on "**Practicing Cloud Computing with AWS**" conducted by Dept. of CS&IT and CSE, KL Deemed to be University, during 20th September to 125th September, 2021.

2020-21 (AY):

- Participated in FDP on "**Applied Data Science: Tools and Techniques"** organised by Dept. of ECE, GPREC(A), Kurnool, during 26th April to 1st May, 2021.
- Participated in AICTE sponsored one-week online STTP on "**Practical Exposure on Machine Learning and Data Science**" organised by Dept. of CSE, Lakireddy Balireddy College of Engineering, Mylavaram, Krishna (Dist.), during 29th May to 2nd June, 2021.
- Participated in AICTE-ISTE approved Orientation/ Refresher program on "**Advanced Emerging Trends in CSE & IT**" organised by Usha Rama College of Engineering and Technology, Telaprolu, KRISHNA Dist., AP, during 23rd March to 30th March, 2021.
- Participated in AICTE sponsored online STTP program on "**Recent Trends in CSE Phase-III**" organised by Dept. of CS&E from 22-3-2021 to 27-3-2021 at St. Mary's Women Engineering College.
- Participated in Webinar on "**Different Cyber Frauds and Social Media Usage**" organised by National Service Scheme Cell, Faculty of Engineering and Technology, JAIN, Bangalore, on 22nd March 2021.
- Participated in Webinar on, "**Safeguarding Against Malware and safety of Mobile Apps**", organized by National Service Scheme Cell, Faculty of Engineering and Technology, JAIN (Deemed-to-be University), Bangalore, on 17th March 2021.
- Attended a webinar on "***Introduction to Machine Learning***" between 1st to 3rd Dec. 2020, organised by VIGNAN's CSE Dept.
- Attended a one-week AICTE Training And Learning (ATAL) Academy online FDP on "***Cyber Security***" between 23rd to 27th November 2020, organised by Sri Jayachamarajendra College of Engineering.
- Participated in the One Week Short Term Training Program, STTP on "***Data Science for Bigdata Analytics in Cloud using Advanced Tools***" organized by Department of Computer Science and Engineering, Chaitanya Bharathi Institute of Technology (Autonomous) during 23rd - 28th November 2020.
- Attended a virtual training program on "***IoT and Applications***", conducted by EXCELR SOLUTIONS, held on 2nd, 3rd, 4th, 6th and 9th Nov., 2020.
- Attended a virtual training program on "***Simplifying Data Science with Machine Learning***", conducted by EXCELR SOLUTIONS, held from 28th Sept. to 12th oct., 2020.
- Attended a 15 days online FDP on "***Data Science & its Applications in STEM***" between 7th to 21st September 2020, organised by Andhra University College of Engineering (A) and JNTUK-Vijayanagaram in association with APSCHE.
- Attended a virtual training program on "***Data Science Masters in 11 hours***", conducted by EXCELR SOLUTIONS, held on 5th, 6th and 12th Sept., 2020.

- Attended a webinar on "***Python for Machine Learning, Artificial Intelligence and Data Sciences***" organised by Department of CSSE, GITAM School of technology, Bengaluru held on 6th September, 2020.
- Attended a webinar on "***Cyber Threats and Data Breaches***" organised by Department of Computer Science and Engineering, SRKR Engineering College held on 29th August, 2020.
- Participated in a online FDP on "***Intellectual Property Rights"***, conducted by TATA CONSULTANCY SERVICES, held from 26h to 28th Aug, 2020.
- Participated in the e-Faculty Training Program on "***ML Technologies for Social Media Analytics***" organised by IIT Guwahati under ISEA project phase-II from 19th to 23rd August, 2020.
- Participated in 15-days online workshop on "***Applications of Data Science for Industries Problem through Python***", conducted by EXCELR SOLUTIONS, held from 10th to 28th Aug, 2020.
- Participated in World's largest Hands-On workshop on "***Dart Programming Language***" organized by Department of Information Technology, SIR C R REDDY COLLEGE OF ENGINEERING in association with Brainovision Solutions India Pvt. Ltd. held on 27/07/2020

2019-20 (AY):

- Attended a One-Week online FDP on "***Block Chain & Cyber Security: A unique fusion to untangle present-day cyber security challenges***" between 22nd to 26th June 2020, organised by Andhra University College of Engineering (A) under ISEA Project, MEITY - Government of India.
- Participated in webinar on "***Advanced Programming using React.js, Node.js and C++*** " organized by Department of Information Technology, Anil Neerukonda Institute of Technology & Sciences, Visakhapatnam held on 06-06-2020.
- Participated in webinar on "***Design Thinking Relevance to Software Development***" organized by Department of Information Technology, Anil Neerukonda Institute of Technology & Sciences, Visakhapatnam held on 03-06-2020.
- Participated and also made a technical Presentation titled "Transfer Learning Based Intrusion Detection System (IDS)" in the Research Evaluation Workshop held at Panjab Engineering College, Chandigarh during 17-19, July 2019.

2018-19 (AY):

- Organized and attended One-week workshop on "***Python Programming for Data Science***" between 11th to 16th February 2019 at Centre for Cyber Security and Data Analytics, Andhra University.

2017-18 (AY):

- Participated as a Resource Person in two-day workshop on "*Data Analytics using R*" organized by AU College of Engineering for Women, Andhra University, Visakhapatnam on 5th March, 2018 and 6th March, 2018.
- Organized and attended Two-week workshop on "*Data Analytics for Cyber Security*" between 15th to 24th February 2018 at Centre for Cyber Security and Data Analytics, Andhra University. Sponsored by Information Security Education and Awareness (ISEA) Project Phase II.
- Attended a workshop on "*User Awareness Program On J-gate @ e-SS*" on 24th October 2017 Organised by Dr. V.S. Krishna Library, Andhra University, Visakhapatnam, in collaboration with UGC-Inflibnet Consortia.
- Organized and attended One-week workshop on "*Digital Forensics and Investigation Tools*" between 9th to 14th October 2017 at Centre for Cyber Security and Data Analytics, Andhra University. Sponsored by Information Security Education and Awareness (ISEA) Project Phase II.

- Attended a One-Week FDP on "*Machine Intelligence & Soft Computing*" between 10th to 16th July 2017 at Dept. of CS&SE, Andhra University, organised by E&ICT Academy, National Institute of Technology, Warangal.

2016-17 (AY):

- Attended a 6-day workshop on "*Data Analytics & IoT*" between 1st to 6th November 2016 at Sasi Institute of Technology & Engineering, organised by E&ICT Academy, National Institute of Technology, Warangal.
- Attended a 3-day workshop on "*R Programming*" between 30th July to 1st August 2016 at Sir CRR College of Engineering, Eluru.

2015-16 (AY):

- Attended a 3-day workshop on "*Big Data Analytics*" between 25th to 27th February 2016 conducted by Gudlavalleru Engineering College, Gudlavalleru.

DETAILS OF WORKSHOPS/ STTPS/ FDPS ORGANISED:

2018-19 (AY):

- Organized and attended One-week workshop on "***Python Programming for Data Science***" between 11th to 16th February 2019 at Centre for Cyber Security and Data Analytics, Andhra University.

2017-18 (AY):

- Participated as a resource person in Two-day workshop on "*Data Analytics Using R*" between 5th to 6th March 2018 at AU College of Engg. for Women, Andhra University.
- Organized and attended Two-week workshop on "*Data Analytics for Cyber Security*" between 15h to 24th February 2018 at Centre for Cyber Security and Data Analytics, Andhra University. Sponsored by Information Security Education and Awareness (ISEA) Project Phase II.
- Organized and attended One-week workshop on "*Digital Forensics and Investigation Tools*" between 9th to 14th October 2017 at Centre for Cyber Security and Data Analytics, Andhra University. Sponsored by Information Security Education and Awareness (ISEA) Project Phase II.

DETAILS OF PATENTS:

2021-22 (AY):

Title: "WEARABLE ABETTED BY IOT"
Abstract :
The present invention is a wearable abetted by loT wherein, it comes to patient care, wearable technology is becoming increasingly important, thereby as more people use Internet of Things apps. it becomes easier and easier for them to use. According to public expectations, new cloud and terminal technologies will make the service more reliable and intelligent thereby, cloud-based machine learning provides cloud-based machine intelligence by collecting and analysing physiological data from wearable smart clothing. It can be washed and reused multiple times, this data is sent to the cloud, where machines can use it.

DETAILS OF RESEARCH PUBLICATIONS:

2021-22 (AY):

- Neeli VSR Pavan Kumar, and Nerella Sameera et.al, "Design of load frequency controller using Whale optimization algorithm ", international conference on smart grids structures and materials -ICSGSM-2022 (Scopus) (Accepted and yet to be published)
- Chamundeswari Ganta, Sameera Nerella et.al, "Stock Market Prdiction Using Reinforcement Learning –A Survey", Proceedings of CIME-2022 International Conference on "Contemporary Innovations in Mechanical Engineering", AIPCP (Scopus & WoS indexed) (Accepted and yet to be published)
- Neeli VSR Pavan Kumar, and Nerella Sameera "Spotted Hyena Optimized PI-PD Controller for Frequency Control of Standalone µ- Grid Incorporation Electric Vehicles". (Accepted and yet to be published)

2020-21 (AY):

- Neeli VSR Pavan Kumar, and Nerella Sameera "Frequency Stabilization of Multi Area Autonomous Hybrid Power System Using Single and Multi-Objective ALP Swarm Algorithm." Journal on power systems engineering, Vol. 8, No.4, ISSN: 2321-7499, pages 39-49, (2021) (**UGC**)
- Nerella Sameera and V.S.R. Pavan Kumar.Neeli, INDIA's Warfare with COVID - The Invisible Enemy, European Journal of Molecular & Clinical Medicine (EJMCM)**,** Vol. 7, Issue 10, pages 9-16, (2020). (**Scopus Indexed**)
- Neeli, VSR Pavan Kumar, and Nerella Sameera. "JAYA Algorithm Based Frequency Regulation of Thermal Power System Interconnected with Micro Grid." *Solid State Technology* 63.6 (2020): 12535-12542. (**Scopus Indexed**)
- Neeli VSR Pavan Kumar, and Nerella Sameera, "Automatic generation control of hybrid two area power system using whale optimization algorithm" i-manager's Journal on Electrical Engineering, Vol. 14, No. 2, ISSN:0973-8835, pages-21-30, (2020). (**UGC**)

2019-20 (AY):

- Nerella Sameera and M. Shashi, encoding approach for Intrusion Detection using PCA and KNN classifier. Proceedings of the third international conference on computational intelligence and informatics, Springer, AISC, Volume 1090, (2020). (**Scopus Indexed**)
- Nerella Sameera and M. Shashi, Transfer learning framework for detecting new attacks in cloud and non-cloud IDN environments. International Journal of Advanced Science and Technology (IJAST), ISSN: 2005 -4238, Vol. 29, No. 5, (2020), pp. 4285 – 4300. (**Scopus Indexed**)
- Nerella Sameera and M. Shashi, Deep Transductive Transfer learning framework for zero-day attack detection, ICT Express, **Elsevier,** ISSN: 2405-9595, Vol. 6, Issue 4, pages 361-367, (2020). (**Scopus & SCI Indexed**)
- Nerella Sameera and M Shashi, Inductive and Transductive Transfer Learning for Zero-day Attack Detection. International Journal of Innovative Technology and Exploring Engineering (IJITEE) ISSN: 2278-3075, Volume-8 Issue-11, (2019). (**Scopus Indexed**)

2018-19 (AY):

- Nerella Sameera and M. Shashi, Intrusion detection analytics: A comprehensive survey. International Journal of Advanced Scientific Research and Management (IJASRM), Volume 4, Issue 6, ISSN:2455-6378, June (2019). (**UGC**)
- Nerella Sameera and M. Shashi, Transfer-learning based prototype for zero-day attack detection. International Journal of Engineering and Advanced Technology (IJEAT), Volume 8, Issue 4, ISSN: 2249-8958, (2019). (**Scopus Indexed**)
- SIEA article: Published an article in ISEA magazine 2019, Ministry of Electronics & Information Technology (MeitY), Government of India.

2017-18 (AY):

- N. Sameera and prof. M. Shashi, Protocol specific intrusion detection using KNN classifier. International Journal for Research in Applied Science & Engineering Technology (IJRASET) ISSN: 2321-9653; Volume 6 Issue V (2018). (**UGC**)
- Nerella Sameera and M. Shashi, A survey on cyber security analytics, International Journal of computer sciences and engineering (IJCSE) ISSN:2347-2693; volume 6 Issue 11 (2018). (**UGC**)
- Presented a paper titled:" Information Fusion for Cyber Security Analytics" in AP-Science Congress, Conference on Cyber Security, Andhra University, Visakhapatnam, (2017).

2016-17 (AY):

- B. Revathi, N. Sameera and J. Malathi, A two-way algorithm method for mining of frequent item sets using map reduce", International of computer sciences and information technologies (IJCSIT) ISSN: 0975-9646; Volume 7, PP. 2491-2498 (2016).
- N. Sameera and L. Bhavani, A method for clustering mixed categorical and numeric data by two-steps" international journal of technical research and applications (IJTRA) e-ISSN: 2320-8163, Volume 4, PP. 142-147 (2016).

REAL TIME PROJECTS DONE:

PROJECT #1: Literature Review on Transfer Learning in NLP area.
Client: **EXA Wizards (Japan)**
Duration: Aug 2018 – Nov 2018
Role: Research and Development
Team Size: 3
Involved in end to end Literature study, Design and preparation of Presentation for the Literature review project
Transfer Learning: Transfer learning is an approach in which a model pre-trained on a large-scale dataset is used to conduct learning for another downstream task (i.e., target task) where labeled data is in short supply. Transfer learning is quite successful in the field of Computer Vision where most of the models are pre-trained on the ImageNet corpus which has inspired the applicability of Transfer Learning for Natural Language Processing area.
The literature review project included detailed introduction to transfer learning in NLP and focuses on the recent works that employ pre-trained language models like ULMFiT, ELMo, OpenAI transformer and BERT.
ULMFiT (Universal Language Model Fine-tuning) is a method that can be used to achieve CV-like transfer learning for any classification task in NLP. The three novel fine tuning approaches proposed in the paper. *Discriminative fine-tuning* and *Slanted triangular learning rates* are introduced to adapt the general features learned during pre-training for the target specific task even with minimal number of labelled examples. *Gradual unfreezing* is proposed as a novel technique to retain previous knowledge and avoid catastrophic forgetting during classification model fine tuning.
ELMo (Embedding from Language Model) is a Deep bidirectional Language Model (biLM) pre-trained with large text corpus to extract multi-layered word embeddings. ELMo Learns 4 conceptualized word representations that capture the Syntax, Semantics and Word sense disambiguation which is a limitation of Word2Vec or GloVe embeddings. ELMo can be easily coupled with existing supervisory models for a diverse range of NLP tasks to improve their performance significantly.
Open AI Transformer (Improving Language Understanding by Generative Pre-Training) is a semi-supervised approach for language understanding tasks using a combination of unsupervised pre-training and supervised fine-tuning. It is used to learn a universal representation that transfers with little adaptation

to a wide range of tasks. Open AI is semi-supervised in the sense that it uses two steps *Generative pre-training* which is a unsupervised step and *Discriminative fine-tuning* which is a supervised step.
BERT (Bidirectional Encoder Representations from Transformers) is Pre-trained to learn deep bidirectional representations by jointly conditioning on both left and right contexts in all layers. The pre-trained BERT representations can be fine-tuned with just one additional output layer to create state-of-the art models for a wide range of NLP tasks. The architecture of BERT is built in comparison to the Open AI Transformer.

PROJECT #2: Abstractive Document Summarization
Client: **EXA Wizards (Japan)**
Duration: Nov 2017 – May 2018
Role: Research and Development
Team Size: 4
Environment: Python - Tensor flow, Tensor-Board, Java, Spyder IDE, Ubuntu.
Involved in Literature study, Design, Implementation, Testing, Fine tuning and Documentation.
The project implements hybrid document summarization architecture, pointer-generator network, which is capable of extracting key portions of the input text via pointers while generating novel sentences to build the multi-sentence gist of the input document with good coverage and cohesion. This architecture generates multi-sentence summary of text documents as it overcomes the limitation of abstractive summarization methods being confined to only sentence to sentence summarization. The architecture contains an encoder that captures the essence of the input document in terms of encoder states for further processing by the decoder to generate the summary word by word either by generating or selecting an appropriate portion of the input and thereby called pointer – generator model. The model building starts with generation of a global vocabulary based on the frequent words of the document corpus and their word embeddings. The decoder generates successive words of the summary by probabilistically selecting words of the vocabulary through h beam search in tune with the context and decoder state.

The decoder in its successive states estimates the attention distribution over the input words, use them as weights to tailor make the encoder states for generating input features specific to the decoder state called context vector. The attention distribution is learned by applying tan_h and softmax as activation functions over the combination of encoder and decoder states during the early stages of training. However, in order to avoid repeated attention towards the most important part of the input even after inclusion in the portion of summary already generated, the decoder maintains a coverage vector to monitor the cumulative attention already given to the input words in the previous decoder states and considers the coverage vector also in addition to encoder and decoder states as input to generate attention distribution. Optimal training schedule starts with training without coverage until the weights stabilizes followed by training with coverage until the total loss which is the sum of log loss and coverage loss on validation set converges. The encoder is implemented using a bi-directional LSTM to consider the order as well as vicinity of words to extract their importance, while the decoder is implemented using (unidirectional) LSTM to add words to the summary in successive states.

The architecture is originally proposed by Abigail See, Liu and Manning, Stanford University in their paper titled "*Get to the point: Summarization with Pointer – Generator Networks*" published in 2017. The team has shared the Python code at https://github.com/abisee/pointer-generator with license under the Apache License 2.0 with permissions for Commercial use, Modification, Distribution, Patent use and Private use.

STRENGTHS:

- Logical thinking
- Creativity
- Self Confidence
- Hard Working nature
- Positive attitude

PERSONAL PROFILE:

Name	: **N. Sameera**
DoB	**:** 12-08-1990
Father's Name	**:** N.V.R. Anjaneyulu
Languages known	**:** English, Telugu.
Address	: Nerella Sameera, D.No 4-86, Near Vidya Vikas College old Boys Hostel, Satrampadu, Eluru, West Godavari (DT), AP.
Hobbies	**:** Filling puzzles, Making technical YouTube videos, Learning latest technologies

DECLARATION:

I consider myself familiar with Computer science and Information security. I am confident of my ability to work in team/as individual. I declare that above mentioned details are correct to the best of my knowledge.

Place: Eluru,
Date: 14-11-2021

(NERELLA SAMEERA)