

Dr Nagender Aneja

Assistant Professor, School of Digital Science, Universiti Brunei Darussalam
Founder and Developer, ResearchID.co

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*Deep Learning, Computer Vision, Natural Language
Processing*

Employment

- **Programme Leader (Computer science)**
School of Digital Science, Universiti Brunei Darussalam *Aug 2021 –Till Date*
- **Assistant Professor in Digital Science**
School of Digital Science, Universiti Brunei Darussalam *Jan 2021 –Till Date*
Subjects: [Data Analytics](#); [Internet Programming](#); [Digital Transformation](#)
- **Founder and Developer**
ResearchID.co *Nov 2018 –Till Date*
Maintaining the project from 2018 by offering free profile management service to researchers and faculty members
- **Senior Manager, Office of AVC (Innovation and Enterprise)**
Universiti Brunei Darussalam, Brunei Darussalam *July 2013–Dec 2020*
- **Associate IP Lead, Microsoft Patent Research Services**
CPA Global, Noida, India *2007–2012*
Office Action Response Drafting for US Patent Applications
Infringement Analysis
Developed number of automation tools for patent analysis
- **Assistant Professor, Deptment of Computer Applications**
Tecnia Institute of Advanced Studies, IP University, Delhi, India *2005–2007*
- **Assistant Professor, Deptment of Computer Engineering**
ABES Engineering College, Ghaziabad, India *2004–2005*
- **Senior Lecturer, Deptment of Mathematics**
Institute of Technology and Management, Gurgaon, India *1999–2004*

- **Lecturer, Deptment of Mathematics**
Lala Lajpat Rai Institute of Engg & Tech, Moga, India 1998–1999

Education

- **Ph.D. Computer Engineering** Jan 16, 2019
J.C. Bose University of Science & Technology YMCA, Faridabad, India 2011–2019
Title: Optimization of Routing Protocols and Profile Matching Algorithms in Ad-hoc Social Networking
- **M.E. Computer Technology and Applications**
Delhi College of Engineering, Delhi, India 2001–2004
- **Master of Management Studies (MMS)**
The Technological Institute of Textile and Sciences, Bhiwani, India 1996–1998
- **M.Sc. Mathematics**
M. D. University, Rohtak, India 1994–1996
Awarded Gold Medal
- **B.Sc. Physics, Chemistry, Mathematics**
M. D. University, Rohtak, India 1991–1994

Awards

- **Best Paper Award**
Transfer Learning using CNN for Handwritten Devanagari Character Recognition 2019
- **Brunei ICT Award**
Winner ICT Industry 2016
- **Nomination, Business Innovation Award**
CPA Global 2011
- **Nomination, Business Innovation Award**
CPA Global 2010
- **Gold Medal**
MSc Mathematics 1996

Technical Courses

- **Introduction to Tableau**
DataCamp 2020
- **Data Analysyt Nanodegree**
Udacity 2020
- **Deep Learning Nanodegree**
Udacity 2019
- **Natural Language Processing Nanodegree**
Udacity 2019

- **Computer Vision Nanodegree** 2019
○ *Udacity*
- **AI Programming with Python Nanodegree** 2018
○ *Udacity*
- **Android Basics Nanodegree by Google** 2017
○ *Udacity*

Projects

Contributor, GEM-benchmark/NL-Augmenter.....

I contributed [replace spelling perturbation](#) to the open-source GEM-benchmark/NL-Augmenter Project. This perturbation adds noise to text using corpora of misspellings making common spelling errors.

Founder and Developer, ResearchID.co.....

I developed and am supporting ResearchID.co since 2018 that is currently being used by university professors and researchers to freely create their personal webpage. The system is linked with Scopus and Google Scholar to populate the list of publications automatically based on Scopus Author ID and Scholar URL. Any one can register and create personal profile.

Developer, Expert Directory.....

I developed expert directory in 2017 for Universiti Brunei Darussalam that is being used by university faculty members to self-register, create, and update personal pages. The system automatically fetch list of publications from Scopus Database using their Scopus author id and also fetches citation and number of publications from Google Scholar and update their individual page on-the-fly. The system helps to reduce manual efforts to update profile manually.

Developer, Autobot.....

I developed Autobot in 2011 for Microsoft Patent Engineering team at CPA Global, Noida, India to reduce manual efforts in fetching Patent information including title, abstract, inventors, assignee, filing date, publishing date, grant date, etc. from a given US Patent Publication or Grant Number. The Autobot takes input a list of numbers and creates a report in MS Word with all required information.

Research Students

1. Co-supervisor for PhD Computer Engineering Student at J.C. Bose University of Science and Technology YMCA, India.
Topic: Early Detection of Lung Cancer with Low-Dose CT Scan using Machine Learning
2. Supervisor for Two School of Digital Science Students for Final Year Project
Project 1: Melanoma Classification using Deep Convolutional Neural Network
Project 2: Design and Implementation of Conversational Chatbot using RNN

Patents

1. Sandhya Aneja; Nagender Aneja; Mohamad Iskandar Petra, "[Instant Messaging for Mobile Device with Offline and online mode](#)," US 10,834,035, Nov 10, 2020 (Granted)
2. Nagender Aneja and Sapna Gambhir, "[Method and System for Ad-hoc Social Networking and Profile Matching](#)," US 10,264,609, Apr 16, 2019 (Granted)
3. Nagender Aneja and Sandhya Aneja, "[Anti-fraud computer implemented method for financial card transaction](#)," US 2015/0339657, Nov 26, 2015 (Published)

Research Publications

2021

1. Sandhya Aneja, Nagender Aneja, Pg Emeroylariffion Abas, Abdul Ghani Naim, "Defense against Adversarial Attacks on Deep Convolutional Neural Networks through non-local Denoising: A data-centric approach" **(Submitted)**
2. Sandhya Aneja, Nagender Aneja, Ponnurangam Kumaraguru, "Predictive Linguistic Cues for Fake News: A Societal AI Problem" **(Submitted)**
3. Sandhya Aneja, Nagender Aneja, Pg Emeroylariffion Abas, Abdul Ghani Naim, "Transfer Learning for Cancer Diagnosis in Histopathological Images," IAES International Journal of Artificial Intelligence (IJ-AI) **(Accepted)**
4. Nur Umairah Binti Ali Hazis, Nagender Aneja, Rajan Rajabalaya, Sheba R David, "[Patent Review of Nanoparticles in Drug Delivery and Cancer Therapy in The Last Decade](#)", Recent Advances in Drug Delivery and Formulation, 2021; 15(1), Bentham Science Publishers **(Scopus)**
5. Rajarshi Roy Chowdhury, Sandhya Aneja, Nagender Aneja, Pg Emeroylariffion Abas, "[Packet-level and IEEE 802.11 MAC frame-level network traffic traces data of the D-Link IoT devices](#)", Data in Brief, Volume 37, Aug 2021, 107208, ISSN 2352-3409 **(Scopus)**
6. Aneja, N., Gambhir, S. "[Recent Advances in Ad-Hoc Social Networking: Key Techniques and Future Research Directions](#)" Wireless Personal Communications 117(3), 1735-1753, Springer US, 2021/4. **(Scopus, SCIE)**
7. Nagender Aneja and Sandhya Aneja, "[Detecting Fake News with Machine Learning](#)", 2021 Conference Proceedings of ICDLAIR2019. ICDLAIR 2019. Lecture Notes in Networks and Systems, vol 175. Springer, Cham. **(Scopus)**

2020

8. Rajarshi Roy Chowdhury, Sandhya Aneja, Nagender Aneja, and Emeroylariffion Abas, "[Network Traffic Analysis based IoT Device Identification](#)", In Proceedings of the 2020 the 4th International Conference on Big Data and Internet of Things (BDIOT 2020). Association for Computing Machinery, New York, NY, USA, 79–89 **(Scopus)**
9. Sandhya Aneja, Siti Nur Afikah Bte Abdul Mazid, Nagender Aneja, "[Neural Machine Translation model for University Email Application](#)" International Conference on Natural Language Processing (ICNLP 2020), July 11-13, 2020 **(Scopus)**

2019

10. Nagender Aneja, Sandhya Aneja, "[Transfer Learning using CNN for Handwritten Devanagari Character Recognition](#)", Presented in First IEEE International Conference on Advances in Information Technology, 24th - 27th July 2019, Chikkamagaluru, Karnataka, India, **(Best Paper Award) (Scopus)**
11. Amit Kumar Jaiswal, Ivan Panshin, Dimitrij Shulkin, Nagender Aneja and Samuel Abramov, "[Semi-Supervised Learning for Cancer Detection of Lymph Node Metastase](#)," Towards Causal, Explainable and Universal Medical Visual Diagnosis Workshop, CVPR 2019 **(Accepted in CVPR Workshop)**

2018

12. Sandhya Aneja, Nagender Aneja, Md Shohidul Islam, "[IoT Device Fingerprint using Deep Learning](#)", International Conference on Internet of Things and Intelligence System (IoTaIS 2018), Bali, Indonesia, 2018 **(Scopus)**
13. Nagender Aneja, Sapna Gambhir, "[Profile-Based Ad Hoc Social Networking Using Wi-Fi Direct on the Top of Android](#)", Mobile Information Systems, 2018 **(Scopus, SCIE)**
14. Prasad Mantri, Mohammed Aledhari, Helen Anne Hicks, Rajesh Nighot, Nagender Aneja, Sukanya Mandal, Ali Kashif Bashir, Jay Wack, Jared Bielby, "[Options and Challenges in Providing Universal Access](#)", IEEE Internet Technology Policy Community White Paper, Apr 2018

2017

15. Sapna Gambhir, Nagender Aneja, Liyanage Chandratilake De Silva "[Piecewise Maximal Similarity for Ad-hoc Social Networks](#)", Wireless Personal Communications, 2017 **(Scopus, SCIE)**
16. Nagender Aneja, Sapna Gambhir, "[Social Profile Aware AODV Protocol for Ad-hoc Social Networks](#)", Wireless Personal Communications, 2017 **(Scopus, SCIE)**
17. Sandhya Aneja, Nagender Aneja "[Security and Privacy: Challenges and Defending Solutions for NoSQL Data Stores](#)", NoSQLDatabase for Storage and Retrieval of Data in Cloud, 237-250., Taylor & Francis Group, CRC Press 2017, Print ISBN: 978-1-4987-8436-8, eBook ISBN: 978-1-4987-8437-5 [Book Chapter] **(Scopus)**
18. Mohammed Aledhari, Sukanya Mandal, Nagender Aneja, Mikael Dautrey, Rajesh Nighot, Prasad Mantri, Jared Bielby, "[Protecting Internet Traffic: Security Challenges and Solutions](#)", IEEE Internet Technology Policy Community White Paper, May 2017
19. Glenn A. Fink, Mohammed Aledhari, Jared Bielby, Rajesh Nighot, Sukanya Mandal, Nagender Aneja, Chris Hrivnak, Lucian Cristache, "[Internet of Things \(IOT\) Security Best Practices](#)" IEEE Internet Technology Policy Community White Paper, May 2017
20. Helen Anne Hicks, Rajesh Nighot, Nagender Aneja, Mohammed Aledhari, Ali Kashif Bashir, Jared Bielby, "[Options and Challenges in Providing Universal Access to the Internet: Part Two](#)", IEEE Internet Initiative eNewsletter, January 2017 [News Letter]

2016

21. Nagender Aneja and Sapna Gambhir, "[Middleware Architecture for Ad-hoc Social Network](#)", Research Journal of Applied Sciences, Engineering and Technology, 13(9), 2016

22. Sapna Gambhir, Samridhi Mangla, Nagender Aneja, "[Software Design for Social Profile Matching Algorithm to create Ad-hoc social network on top of Android](#)", IEEE International Conference on Computing for Sustainable Global Development 2016, IEEE ,3450-3454 (**Scopus**)
23. Helen Anne Hicks, Rajesh Nighot, Nagender Aneja, Mohammed Aledhari, Ali Kashif Bashir, Jared Bielby, "[Options and Challenges in Providing Universal Access to the Internet \(Part 1\)](#)", 2016, IEEE Internet Initiative eNewsletter, November 2016

2015

24. Nagender Aneja, Sapna Gambhir, "[Geo-social semantic profile matching algorithm for dynamic interests in Ad-hoc social network](#)", IEEE International Conference on Computational Intelligence and Communication Technology (CICT) 2015, IEEE, 354-358 (**Scopus**)
25. Sapna Gambhir, Nagender Aneja, Samridhi Mangla, "[Need of ad-hoc social network based on users' dynamic interests](#)", International Conference on Soft Computing Techniques and Implementations (ICSCIT), India, 2015 (**Scopus**)

2006-2014

26. Nagender Aneja and Sapna Gambhir, "[Geo-Social Profile Matching Algorithm for Dynamic Interests in Ad-Hoc Social Network](#)", Social Networking, Vol.3 No.5, October 2014
27. Nagender Aneja and Thomas George, "[Verification of Forecasts from High Resolution Numerical Weather Prediction Model](#)", Research Journal of Applied Sciences, Engineering and Technology 8.10 (2014): 1255-1258. (**Scopus**)
28. Sapna Gambhir and Nagender Aneja, "[Ad-hoc Social Network: A Comprehensive Survey](#)", International Journal of Scientific and Engineering Research, Vol 4, Issue 8, August 2013
29. Nagender Aneja, Sapna Gambhir, "[Various Issues in Ad-hoc Social Networks](#)", National Conference on Recent Trends in Computer Science and Information Technology (RTCSIT), 2012, Echelon Institute of Technology Faridabad Haryana India, 6-9
30. Sandhya Khurana, Neelima Gupta, Nagender Aneja, "[Minimum Exposed Path to the Attack \(MEPA\) in Mobile Ad Hoc Network \(MANET\)](#)", Sixth International Conference on Networking, 2007. ICN '07 (**Scopus**)
31. Sandhya Khurana, Neelima Gupta, Nagender Aneja, "[Reliable Ad-hoc On-demand Distance Vector Routing Protocol](#)", International Conference on Networking, International Conference on Systems and International Conference on Mobile Communications and Learning Technologies, 2006 (**Scopus**)

Webinar Presented

1. [Introduction to Deep Learning](#), Keynote Speech at International Conference (Virtual) Recent Trends in Computing (ICRTC-2021), Compucom Institute of Information Technology and Management, Jaipur, India

Table 1: Number of Publications / Patents

Total Pubs	Total Patents	SCIE Pubs	Scopus Pubs	Journal Pubs	Conference Pubs	IEEE White Papers	Patents Filed	Patents Granted	Submitted Papers
31	3	4	17	12	12	3	3	2	2

2. [Deep Learning using PyTorch with Practical Implementation of MNIST Dataset](#), Department of Information Technology, ABES Engineering College, Ghaziabad, February 06, 2021
3. [Patent Protection: Securing the Rights to Your Innovation](#), Authority for Info-communications Technology Industry Brunei, February 19, 2020
4. [Protecting Internet Traffic: Security Challenges and Solutions](#) August 16, 2017, IEEE Internet Initiative