

Bharathi Raja Asoka Chakravarthi

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Objective

To pursue a teaching and research oriented career which provides an avenue for continuous professional development and contributes to accomplishing the goals of the Institution.

Education

Ph.D. (Computer Science and Engineering) (September 2016- July 2020)

**INSIGHT SFI RESEARCH CENTRE FOR DATA ANALYTICS, DATA SCIENCE INSTITUTE,
NATIONAL UNIVERSITY OF IRELAND, GALWAY**

- ▶ Thesis: Leveraging Orthographic Information to improve the Machine Translation of Under-resourced Languages (<https://aran.library.nuigalway.ie/handle/10379/16100>).

M.Sc. (Computational Science) (July 2013- July 2015)

INDIAN INSTITUTE OF INFORMATION TECHNOLOGY & MANAGEMENT-KERALA, INDIA

- ▶ GPA: 9.36/10.00 [First Class with Distinction]
- ▶ Project: Reconstruction of Limit Order Book for NSE (Grade:10.00/10.00).

B.Tech. (Agricultural Information Technology) (July 2007- May 2011)

TAMIL NADU AGRICULTURAL UNIVERSITY, COIMBATORE-641003, INDIA

- ▶ GPA: 8.75/10.00 [First Class Honours]
- ▶ Project : Exploring potential of Global WRF for Seasonal Climate Prediction (Grade:10.00/10.00).

HIGHER SECONDARY SCHOOL EXAMINATION (2006-2007)

MCHSS, MADURAI, INDIA

- ▶ Grade: 80.66 %
- ▶ Subjects: Tamil, English, Mathematics, Physics, Chemistry, Computer Science.

Research Interests

- ▶ Natural Language Processing and Multimodal Machine Learning
- ▶ Natural Language Processing for Under-resourced Languages

Awards and Honors

- Best Application Paper Award for paper “Classification Benchmarks for Under-resourced Bengali Language based on Multichannel Convolutional-LSTM Network” by The 7th IEEE International Conference on Data Science and Advanced Analytics (IEEE DSAA'2020).
- Postdoctoral (September 2020- December 2021) funded by Science Foundation Ireland, co-funded by the European Regional Development Fund.
- Selected as ACM Future Computing Academy member 2019-2021.
- Ph.D. (September 2016- July 2020) funded by Science Foundation Ireland, co-funded by the European Regional Development Fund, and the Enterprise Ireland (EI) Innovation Partnership Programme.
- Passed International English Language Testing System (IELTS) (Score: 7/9) jointly conducted by the British Council, IDP: IELTS Australia and Cambridge Assessment English.
- Ranked first in University exams for Master Degree in Computational Science.
- Speed-IT scholarship for pursuing M.Sc. (Computational Science) during 2013-2015, in Indian Institute of Information Technology & Management-Kerala, funded by Government of Kerala, India.
- Qualified Graduate Aptitude Test in Engineering (Computer Science and Engineering), 2012, conducted by Department of Higher Education, Ministry of Human Resource Development (MHRD), Government of India (GoI).
- Secured Internship at National Centre for Medium Range Weather Forecasting (NCMRWF), Ministry of Earth Sciences, Government of India, during my B.Tech final year.

Experience

- Associate Lecturer (Jan, 2021- present) at School of Computer Science, National College of Ireland Dublin.
- Guest Lecturer (Jan, 2021- present) at Indian Institute of Information Technology and Management-Kerala
- Adjunct Lecturer (Sep, 2020- present) at School of Computer Science, National University of Ireland Galway.
- Postdoctoral at (Sep, 2020- present) at Insight SFI Research Centre for Data Analytics, National University of Ireland Galway. Working on Industry project “Translation Across Borders” with ADAPT Centre, Dublin City University, Dublin and on Irish Research Council Project “[*Comparative Deep Models of Language for Minority and Historical Languages*](#)”.
- Ph.D. Student (Sep, 2016- Aug, 2020) at Insight SFI Research Centre for Data Analytics, National University of Ireland Galway. Working on thesis entitled “*Leveraging Orthographic Information to improve the Machine Translation of Under-resourced Languages*”. Worked on Industry Project entitled *Neural Machine Translation for Under-Resourced Scenarios* and on Irish Research Council Project

“Comparative Deep Models of Language for Minority and Historical Languages”. Teaching Assistant for Natural Language Processing and Advanced Topics in Natural Language Processing. I have participated in programme review and module development activities during my time in NUIG. I have also been involved in programme design and curriculum development with the Dublin Business School (DBS) where I developed a Professional Programme offered by the School - Course on Demand- titled Internet of Things. This course is aimed for business leaders who would like to keep up with recent technology developments. It is an online course and I have written the syllabus for its 3 modules; I created the scripts for this online course online content, developed the content and a range of interactive assessment materials. I have worked in both industry projects and external research projects. I have experience in managing teams to get the industry standard output. I have experience in creating research software and have hands on experience in the software development life cycle. I have worked on an Industry project titled NURS-Neural Machine Translation for Under-resourced language scenarios and as part of this I have supervised two research assistants. This involved developing important teamworking skills (6-member team) and we published our work in International conferences and collaborated with an Industry partner United Language Group to produce the results. In another project I have worked in a group of 12 people to create new software in a study titled “Comparative Deep Models of Language for Minority and Historical Languages”. I believe I have excellent organizational skills and the ability to both use initiative and to work collaboratively as part of a team.

- ▶ Research Associate (Sep, 2015 - June, 2016) at Indian Institute of Information Technology (IIIT), Sri City. During this period I worked on study of Code-Mixed Data on Indian Social Media which was collected from Twitter data using Twitter API. This involved developing, implementing, and using a broad set of machine-learning models and quantitative techniques for prediction and classification of Code-Mixing using Weka and Java. I was also a Teaching Assistant for an Operating Systems course.
- ▶ Worked as a Research Associate at Indian Institute of Management-Udaipur under Dr. Sumit Kumar in project entitled *"Impact of Algorithmic Trading on Capital Market Microstructure"* from January, 2015 to August, 2015. As first step we simulated Indian Limit Order Book dynamics. The aim of the project was to construct a framework that captures the dynamics of limit order book in the Indian stock markets modeled on the set of previous historical data.
- ▶ Worked as a Junior Research Fellow at the Agro Climate Research Centre, Tamil Nadu Agricultural University, India, on the DST-GOI research project entitled *“Climate Change: Assessing impacts and developing Adaptation Strategies for Agriculture in Tamil Nadu”* from February, 2012 to June, 2013. I applied my programming skill using, FORTRAN/Perl and Shell Scripting for extracting the climate change scenarios (Base line Period: 1980-2000, Mid Century: 2021-2050 and End Century: 2080-2100) generated in the ECHAM climate model (Atmospheric General Circulation Model) for Tamil Nadu.
- ▶ Internship entitled *“Scalability Analysis Of Weather Research Forecast Model on Parallel Computers”* under the guidance of B. Athiyaman, Scientist-F & Head, Computer & Networking Division, Ministry of Earth Sciences, Noida and Dr. Sudhakar Yerneni, Country Manager, Cray, New Delhi, in National Centre for Medium Range Weather Forecasting, Noida from August 2010 to November 2010. During the internship period I learned about the architecture of the IBM P6-575 42 node system and worked on

this for executing parallel programs using POE. I submitted and managed parallel jobs using Loadleveler, setup the environment, and installed NetCDF, MPICH library, and WRF-ARW model. The project also involved running and measuring scalability of the WRF-ARW model.

Project work

- Masters Project: "*Impact of Algorithmic Trading on Capital Market Microstructure*" from January, 2015 to August, 2015. To analyze historical order data of magnitudes in terabytes. As a first step we simulated Indian Limit order book dynamics. The aim of the project is to construct a framework that captures the dynamics of limit order book in the Indian stock markets modeled on the set of previous historical data. (Grade Point:10.00/10.00)
- B.Tech project "*Exploring potential of Global WRF for Seasonal Climate Prediction*" under the guidance of Dr. R. Jagannathan, Professor and Mr. R. Venkatachalam (Ass. Prof). Work. The project involved making global circulation runs using Global-WRF for predicting Northeast monsoon rainfall of Tamil Nadu through two way nesting using the High Performance Cluster available in the Agro Climate Research Centre. The work involved finding out the level of accuracy of the prediction by comparing with the observation from specific location data collected from AWS established under Tamil Nadu Agricultural Weather Network. (Grade Point:10.00/10.00).

Teaching Experience

- [2020-2021] Project, National College of Ireland Dublin [Higher Diploma in Data Analytics]
- [2020-2021] Data Intensive Architectures , National College of Ireland Dublin [Post Graduate Diploma in Data Analytics]
- [2020-2021] 2021-CS103 Introduction to Computer Science, National University of Ireland Galway [Undergraduate]
- [2019-2020] Internet of Things- Course on Demand, Dublin Business School, Ireland [Professional Course].

Teaching Assistant Experience

- [2019-2020] 1920-CT5146 Natural Language Processing (Online) - Teaching Assistant, National University of Ireland Galway. [Masters and Advanced Undergraduate Level]
- [2018-2019] 1819-CT5121 Advanced Topics in Natural Language Processing- Teaching Assistant, National University of Ireland Galway. [Masters and Advanced Undergraduate Level]
- [2017-2018] 1718-CT5101 Natural Language Processing - Teaching Assistant, National University of Ireland Galway. [Masters and Advanced Undergraduate Level]
- [2016-2017] 1617-CT5101 Natural Language Processing - Teaching Assistant, National University of Ireland Galway. [Master and Advanced Undergraduate Level]
- [2015-2016] Operating Systems- Teaching Assistant, Indian Institute of Information Technology Sri City. [Undergraduate Level]

- ▶ [2010-2011] FORTRAN Programming- Teaching Assistant, Tamil Nadu Agricultural University, Coimbatore. [Undergraduate Level]

Student Co-supervision

- ▶ Gautham Vadakkekara Suresh, M.Sc Thesis 2020-2021, National University of Ireland Galway (co-supervised with Dr. John P. McCrae) Title: Offensive language detection in code-mixed text
- ▶ Shubhanker Banerjee, M.Sc Thesis 2020-2021, National University of Ireland Galway (co-supervised with Dr. John P. McCrae) Title: Phonetic Transcription of Celtic Languages
- ▶ Anjali A Prasad, M.Phil Thesis 2020-2021, Indian Institute Of Information Technology and Management (co-supervised with Prof. Elizabeth Sherly) Title: Effective Fake News Detection using Enhanced BERT Algorithm
- ▶ Saurabh Hebbalkar, M.Sc Thesis 2019-2020, National University of Ireland Galway (co-supervised with Dr. John P. McCrae) Title: Multimodal Machine Translation

Student Mentoring

- ▶ Shardul Shuryawanshi, Ph.D., 2019-2022 National University of Ireland Galway
- ▶ Priya Rani, Ph.D., 2019-2022 National University of Ireland Galway
- ▶ Koustava Goswami, Ph.D., 2019-2022 National University of Ireland Galway
- ▶ Mani Vegupatti M.Sc Thesis 2019-20, National University of Ireland Galway
- ▶ Navya Jose M.Sc Project 2018-20, Indian Institute of Information Technology & Management, Kerala, India
- ▶ Shardul Shuryawanshi, M.Sc Thesis 2018-19, National University of Ireland Galway
- ▶ Pranav Verma M.Sc Thesis 2018-19, National University of Ireland Galway

Selected Publications (For recent up to date publication list please visit

<https://scholar.google.com/citations?user=irCl028AAAAJ&hl=en>)

- ▶ **Bharathi Raja Chakravarthi**, Navya Jose, Shardul Suryawanshi, Elizabeth Sherly and John P. McCrae “A Sentiment Analysis Dataset for Code-Mixed Malayalam-English,” In Proceedings of the 1st Joint Workshop of SLTU (Spoken Language Technologies for Under-resourced languages) and CCURL (Collaboration and Computing for Under-Resourced Languages) (SLTU-CCURL 2020), co-located with 12th Edition of Language Resources and Evaluation Conference, Marseille, France, May, 2020.
- ▶ **Bharathi Raja Chakravarthi**, Vigneshwaran Muralidaran, Ruba Priyadharshini and John P. McCrae “Corpus Creation for Sentiment Analysis in Code-Mixed Tamil-English Text,” In Proceedings of the 1st Joint Workshop of SLTU (Spoken Language Technologies for Under-resourced languages) and CCURL (Collaboration and Computing for Under-Resourced Languages) (SLTU-CCURL 2020), co-located with 12th Edition of Language Resources and Evaluation Conference, Marseille, France, May,

2020.

- Priya Rani, Shardul Suryawanshi, Koustava Goswami, **Bharathi Raja Chakravarthi**, Theodorus Fransen, and John P. McCrae “A Comparative Study of Different State-of-the-Art Hate Speech Detection Methods for Hindi-English Code-Mixed Data,” In Proceedings of the TRAC-2: The Second Workshop on Trolling, Aggression & Cyberbullying, co-located with 12th Edition of Language Resources and Evaluation Conference, Marseille, France, May, 2020.
- Shardul Suryawanshi, **Bharathi Raja Chakravarthi**, Mihael Arcan, Paul Buitelaar “Multimodal Meme Dataset (MultiOFF) for Identifying Offensive Content in Image and Text,” In Proceedings of the TRAC-2: The Second Workshop on Trolling, Aggression & Cyberbullying, co-located with 12th Edition of Language Resources and Evaluation Conference, Marseille, France, May, 2020.
- Shardul Suryawanshi, **Bharathi Raja Chakravarthi**, Mihael Arcan, Paul Buitelaar “A Dataset for Classification of Tamil Memes,” In Proceedings of the 5th Workshop on Indian Language Data Resource and Evaluation (WILDRE-5), co-located with 12th Edition of Language Resources and Evaluation Conference, Marseille, France, May, 2020.
- Navya Jose, **Bharathi Raja Chakravarthi**, Shardul Suryawanshi, Elizabeth Sherly and John P. McCrae “A Survey of Current Datasets for Code-Switching Research”. In ICACCS 2020: International Conference on Advanced Computing & Communication Systems (ICACCS) Tamil Nadu, India, March 6-7, 2020.
- Ruba Priyadharshini, **Bharathi Raja Chakravarthi**, Mani Vegupatti and John P. McCrae “Named Entity Recognition for Code-Mixed Indian Corpus using Meta Embedding”. In ICACCS 2020: International Conference on Advanced Computing & Communication Systems (ICACCS) Tamil Nadu, India, March 6-7, 2020.
- Daniel Torregrosa, Nivranshu Pasricha, Maraim Masoud, **Bharathi Raja Chakravarthi**, Juan Alonso, Noe Casas and Mihael Arcan “Leveraging Rule-Based Machine Translation Knowledge for Under-Resourced Neural Machine Translation Models.” In Machine Translation Summit (MT-Summit 2019), Dublin, Ireland.
- **Bharathi Raja Chakravarthi**, Mihael Arcan, and John P. McCrae. “WordNet Gloss Translation for Under-resourced Languages using Multilingual Neural Machine Translation.” In The Second Workshop on Multilingualism at the intersection of Knowledge Bases and Machine Translation co-located with Machine Translation Summit (MT-Summit 2019), Dublin, Ireland.
- **Bharathi Raja Chakravarthi**, Ruba Priyadharshini, Bernardo Stearns, Arun Jayapal, Sridevy S, Mihael Arcan, Manel Zarrouk, and John P. McCrae. “Multilingual Multimodal Machine Translation for Dravidian Languages utilizing Phonetic Transcription.” In The Second Workshop on Technologies for MT of Low-Resource Languages co-located with Machine Translation Summit (MT-Summit 2019), Dublin, Ireland.
- **Bharathi Raja Chakravarthi**, Mihael Arcan, and John P. McCrae. “Comparison of Different Orthographies for Machine Translation of Under-Resourced Dravidian Languages.” In 2nd Conference on Language, Data and Knowledge (LDK 2019). Schloss Dagstuhl-Leibniz-Zentrum fuer Informatik, 2019.

- ▶ **Bharathi Raja Chakravarthi**, Mihael Arcan, and John P. McCrae. "Improving Wordnets for Under-Resourced Languages Using Machine Translation." In Proceedings of the 9th Global WordNet Conference (GWC 2018), p. 78. 2018.
- ▶ Ranjan, Prakash, **Bharathi Raja**, Ruba Priyadharshini, and Rakesh Chandra Balabantaray. "A comparative study on Code-Mixed Data of Indian Social Media Vs Formal Text." In 2016 2nd International Conference on Contemporary Computing and Informatics (IC3I), pp. 608-611. IEEE, 2016.

Reviewer

- ▶ ACM Transactions on Asian and Low-Resource Language Information Processing
- ▶ The Machine Translation Journal
- ▶ Language Resources and Evaluation Journal
- ▶ The SN Computer Science Journal
- ▶ Association for Computational Linguistics (2021)
- ▶ International Conference on Human-Agent Interaction (HAI 2020, 2021)
- ▶ Annual Meeting of the Cognitive Science Society (CogSci-2020, 2021)
- ▶ International Global Wordnet Conference (2019, 2020, 2021)
- ▶ International AAAI Conference on Web and Social Media (2019, 2020, 2021)
- ▶ Twelfth International Conference on Natural Language Processing (ICON-2015)

Program Committee

- ▶ International Global Wordnet Conference (2019, 2020, 2021)
- ▶ First Workshop on Patent Text Mining and Semantic Technologies (PatentSemTech 2019)

Workshop and Tutorials Organized

- ▶ The First workshop on Language Technology for Equality, Diversity, and Inclusion, European Chapter of the Association for Computational Linguistics, April, 2021 (Online)
- ▶ The First Workshop on Speech and Language Technologies for Dravidian Languages, European Chapter of the Association for Computational Linguistics, April, 2021 (Online)
- ▶ Deep Learning with Tensorflow, Developers Forum, Data Science Institute, National University of Ireland Galway, 2020
- ▶ Deep Learning with Keras, Developers Forum, Data Science Institute, National University of Ireland Galway, 2019
- ▶ Deep Learning with PyTorch, Developers Forum, Data Science Institute, National University of Ireland Galway, 2019

Editorial Board:

- ▶ Special Issue on Language Technology for Equality, Diversity, and Inclusion - Language Resources and

Evaluation Journal

- Topical Issue of SN Computer Science Journal: Machine Learning for Offensive and Highly Emotional Content on Social Media

Technical Skills

Machine Learning and Deep Learning Framework	Keras-Tensorflow, PyTorch, Weka, scikit-learn
Natural Language Processing Toolkit	NLTK, OpenNMT, Moses
Programming Languages Known	Python
	C, FORTRAN 77,90
Web designing	HTML, CSS
GIS	ArcGIS 9.3 Desktop
DBMS	MySQL
	Oracle
Operating systems worked	Windows (Xp, Vista, 7,8)
	Mac OS, IBM AIX 5.3L
	LINUX(CentOS, MadRiva, UBuntu)

Co-Curricular Activities

- Equality, Diversity and Inclusion (EDI) committee member at Data Science Institute, National University of Ireland, Galway from Jun 2019.
- ATHENA SWAN Student representative at Data Science Institute, National University of Ireland, Galway from Sep 2018.
- Member of Weightlifting Club at National University of Ireland, Galway from Jan 2017.
- Programme Committee Member of LGBT Society (GIGSoc) at National University of Ireland, Galway during Jan 2017- December 2017.
- Arts and Sports Club member during M.Sc at Indian Institute of Information Technology & Management-Kerala.
- Taking Home Tuition for 11th Student(Mathematics)(2014- 2014).
- Class representative of M.Sc (Computational Science).
- Placement cell secretary of B.Tech (AIT).
- Organized National level technical symposium “TRANSPIRE’09”.
- Year representative of B.Tech(AIT) during 2009-2010.
- Runner in Ball badminton in Annual sports meet-2008.
- Participated and won prizes in Cultural Competitions (Classical dance).

- ▶ Participated in the seven days NSS Special Camping programme on the theme “Healthy youth for healthy India in Devarayapuram, Coimbatore”.

Courses Studied in B.Tech (AIT)

Agriculture Courses.

- ▶ Orientation to Agricultural System, Soil and Crop Management, Commercial Horticulture, Plantation Management, Environment Management, Principles of Genetics, Introduction to Biotechnology, Remote Sensing and GIS application in Agriculture, Atmospheric Science.

IT Courses.

- ▶ Introduction to Computer Technology and Programming Languages, Fundamentals of Computers and Operating System, Design and Analysis of Algorithms and Data Structures, Computer Organization and Architecture, Probability and Information Systems, Compiler Design and Programming Languages, Computer Graphics, 3D Modeling and Visualization and application, CAD and Multimedia Technology, Introduction to Database System and Design, Applications of RFID and WIFI Technology, Parallel Processing, Super Computing and Application, FORTRAN Programming, HPC Clusters and Parallel Computing for Simulations, FORTRAN programming for Parallel Computing, WRF Forecasting Model, Regional Climate Model(RegCM3).

Courses in M.Sc (CS)

- ▶ Differential Equations, Statistical Methods, Principles of Programming, Data Structure and Algorithm, Operating System, Discrete Mathematics and Graph Theory, Theory of Computation, Computer Architecture and Organization, Object Oriented Programming, Computer Networking, Database Management System, Software Engineering, Computational Modeling, High Performance Computing and Computational Linguistics.

Courses in Structured Ph.D. (30 ECTS)

- ▶ Machine Learning and Data Mining, An Introduction to Teaching and Learning, Research Integrity, Journal Club Programme, Research Paper Publication, Oral/Poster Presentation.

Courses in MOOC

- ▶ Structuring Machine Learning Projects by deeplearning.ai on Coursera. Certificate earned on July 2018. (<https://www.coursera.org/account/accomplishments/verify/5JNVUK77QPPF>)
- ▶ Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization by deeplearning.ai on Coursera. Certificate earned on March 2018 (<https://www.coursera.org/account/accomplishments/verify/KQXEGMLVF4DD>)
- ▶ Neural Networks and Deep Learning Issuing by deeplearning.ai on Coursera. Certificate earned on February 2018 (<https://www.coursera.org/account/accomplishments/verify/LE75MT5VT6UP>)
- ▶ Machine Learning Foundations: A Case Study Approach by University of Washington on Coursera. Certificate earned on May 2016 (<https://www.coursera.org/account/accomplishments/verify/TKEKUJ42XYYN>)
- ▶ An Introduction to Interactive Programming in Python (Part I) by Rice University on Coursera.

Certificate earned on July 13, 2015

(<https://www.coursera.org/account/accomplishments/records/gCawbxy2j68tXSjx>)

- Cluster Analysis in Data Mining by University of Illinois at Urbana-Champaign on Coursera. Certificate earned on June 10, 2015 (<https://www.coursera.org/account/accomplishments/records/DVyCBHXz76j8BuVP>).
- Big Data Fundamentals by Big Data University. Certificate earned on June 8, 2015.
- R Programming by Johns Hopkins University on Coursera. Certificate earned on May 12, 2015 (<https://www.coursera.org/account/accomplishments/records/c8zH2Lgu9EjTzBdh>).
- The Data Scientist's Toolbox by Johns Hopkins University on Coursera. Certificate earned on May 11, 2015 (<https://www.coursera.org/account/accomplishments/records/E57GYQfeGt7vBDqL>).
- Text Retrieval and Search Engines by University of Illinois at Urbana-Champaign on Coursera. Certificate earned on May 8, 2015 (<https://www.coursera.org/account/accomplishments/records/YNWK9UzCATFQ884n>).
- Machine Learning by Stanford University on Coursera. Certificate earned on May 1, 2015.
- Logic: Language and Information I by The University of Melbourne on Coursera. Certificate earned on April 15, 2015 (<https://www.coursera.org/account/accomplishments/records/ZtjUpsfpzS695ygW>).
- Pattern Discovery in Data Mining by University of Illinois at Urbana-Champaign on Coursera. Certificate earned on March 19, 2015 (<https://www.coursera.org/account/accomplishments/records/WM839E6DNGQwH2Fd>).
- Programming for Everybody (Python) by University of Michigan on Coursera. Certificate earned on January 12, 2015.

Training Courses Attended

	Courses	Duration	Place
1	Internship training in Indian Meteorological Department	17.5.2010 to 21.5.2010	Indian Meteorological Department, Regional Meteorological Centre, Chennai.
2	Customizing ArcObjects 9.3 with VBA programming	15.2.2010 to 17.2.2010	INDIAN GEOINFORMATICS CENTER, Chennai
3	A Beginner's Course on GIS using ArcGIS	2.1.2010 to 6.1.2010	By INDIAN GEOINFORMATICS CENTER held at Tamil Nadu Agricultural University(TNAU), Coimbatore.
4	Leadership & Employability	5 days	Bharathiya School of Management,

	Acceleration Program(B-LEAP)		Coimbatore.
5	Programming Using C++ (RegNo:R0800B9000424)	48 Hours	NIIT Acedamy, Coimbatore
6	Programming in C (RegNo:R0800B9000422)	32 Hours	NIIT Acedamy, Coimbatore
7	Advanced Diploma in Computer Hardware and Networking (RegNo:6023) (Grade: A-Excellent)	3.4.2006 to 10.8.2006	CSC Computer Education, Y.Othakkadai Centre, Madurai

References

► Dr. John P. McCrae

Lecturer above-the-bar and Unit leader,
Unit for Linguistic Data,
Insight SFI Research Centre for Data Analytics,
Data Science Institute,
National University of Ireland Galway.
E-mail: John.McCrae@insight-centre.org

► Dr. Paul Buitelaar

Senior Lecturer and Unit Leader,
Unit for Natural Language Processing,
Insight SFI Research Centre for Data Analytics,
Data Science Institute,
National University of Ireland Galway.
E-mail: paul.buitelaar@insight-centre.org

► Prof. Dr. Elizabeth Sherly,

Senior Professor,
School of Computational Science,
Indian Institute of Information Technology & Management-Kerala.
E-mail: sherly@iiitm.ac.in

► Prof. Dr. V. Geethalakshmi

Professor and Head,
Tamil Nadu Agricultural University,
Coimbatore-641003, India
Email: geetha@tnau.ac.in

I hereby solemnly affirm that all the information provided above is true to the best of my knowledge and belief.

Yours Sincerely,



(Bharathi Raja Chakravarthi)