Vishwash Batra

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Education

- **University of Warwick** — Coventry, UK
  Doctor of Philosophy (PhD) in Computer Science — *March 2020*
  - Thesis - *Neural Models for Stepwise Text Illustration*
  - Research Areas - *Natural Language Processing, Machine Learning*
  - Advisor - Prof Yulan He

- **Indian Institute of Technology (IIT) Ropar** — Ropar, India
  Bachelor of Technology (BTech) in Computer Science and Engineering — *May 2015*
  - Relevant Modules - Artificial Intelligence, Computer Vision, Probability Theory
  - Project - *Early Breast Cancer Detection by Classifying Mammograms into benign and malignant using SVM*
  - Advisor - Dr Deepti R Bathula

Research Experience

- **Research Assistant, University of Warwick** — Coventry, UK
  Topic - Investigate latent variable models for context modeling — *May 2019 - Dec 2019*
  - investigated the inclusion of latent random variables in recurrent neural network architectures for the tasks involving highly structured sequential data, mainly textual. Also studied joint-modeling of sequences of words and their corresponding image representations.

- **Research Assistant, Folding Space** — Birmingham, UK
  Topic - Handwritten text detection implementation using Octave — *Feb 2016 - May 2016*
  - Long Document representation is one of the core NLP tasks in machine understanding. An unsupervised technique for learning a general representation can be effective for various applications. I worked with medical reports data on long document representation. Open-source software like Octave to automatically detect handwritten text was used.

- **Research Intern, Aston University** — Birmingham, UK
  Topic - Joint Topic-Sentiment Visualisation of live twitter stream — *May 2014 - Jul 2014*
  - Sentiment analysis or opinion mining aims to detect subjective information such as opinions, attitudes, and feelings expressed in text. I worked on the development of a visualisation tool for a probabilistic modeling framework based on Latent Dirichlet Allocation (LDA), called joint sentiment-topic model (JST), which detects sentiment and topic simultaneously from micro-blogging services.

- **Research Intern, Indian Institute of Science (IISc)** — Bangalore, India
  Topic - Social Networks Analysis to generalised selection problem of suppliers in a supply chain — *Nov 2013 - Dec 2013*
  - I worked on developing a simulation framework for a multidisciplinary solution based on the consideration of the so-called small world dynamics which have been proposed for economy and social studies and have recently revealed to be a successful approach to be exploited for characterising information propagation in social networks.

Industry Experience

- **Software Development Engineer, Jasper Infotech** — New Delhi, India
  technologies - Java Spring, products - Snapdeal — *July 2015 - Dec 2015*

Teaching Experience

- **Guest Lecturer, University of Warwick** — Coventry, UK
  Deliver seminar lectures on the topics of: Keras, Sequence to Sequence Modeling, Feedforward Networks — *2018-Present*
  - CS909: Data Mining
  - CS918: Natural Language Processing
  - CS331: Neural Computing
- **Teaching Assistant, University of Warwick** — Coventry, UK
  Conducted Lab sessions, held office hours, answered email queries, graded student coursework. — *2018/19*
  - CS909: Data Mining
  - CS918: Natural Language Processing
  - CS255: Artificial Intelligence
  - CS118: Programming for Computer Scientists
  - CS126: Design of Information Structures
- **Distance Tutor, Cap Gemini UK Plc** — UK
  Higher Degree Apprenticeships — *Mar 2016 - Sep 2018*
  - Online Tutoring for modules Data Mining and Information Security for degree apprenticeships.

Publications

- **Vishwash Batra**, Yulan He, and George Vogiatzis. Neural caption generation for news images. In *Proceedings of the Eleventh International Conference on Language Resources and Evaluation (LREC 2018)*, Miyazaki, Japan, May 2018. European Language Resources Association (ELRA)
- **Vishwash Batra**, Aparajita Haldar, Yulan He, Hakan Ferhatosmanoglu, George Vogiatzis, and Tanaya Guha. Variational recurrent sequence-to-sequence retrieval for stepwise illustration. In *Proceedings of the Forty Second European Conference on Information Retrieval (ECIR 2020)*, Lisbon, Portugal, 2020

Talks

- **Neural Caption Generation for News Images**: Miyazaki, Japan, May, 2018

Awards and Honours

- University of Warwick Department of Computer Science fully-funded PhD Scholarship award
- Among top 0.5% students in India in 2011, Joint Entrance Exam, secured a rank of 3,078 (top 0.27%) out of 1,120,000 students in AIEEE2011 and a rank of 3,782 out of 550,000 students in IITJEE2011.

Professional Activities

- **Reviewer**
  scientific committee for following conferences/journals — *2016/20*
  - Association for Advancement of Artificial Intelligence (AAAI) 2020
  - Language Resources and Evaluation Conference (LREC) 2020
- **Member**: NLP Reading Group at the Alan Turing Institute
- **Software Technologies**: C/C++, Python, Matlab/R, Django, PyTorch

References

- **Yulan He**, Professor, University of Warwick
- **Tanaya Guha**, Assistant Professor, University of Warwick
- **Nitin Auluck**, Assistant Professor, Indian Institute of Technology Ropar