

**ABHIMANYU SETHI**Course : **M.Sc. (Hons.)**, Economics and **B.E. (Hons.)**, Computer Science, 2022

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CGPA : 7.77

**ACADEMIC DETAILS**

COURSE	SPECIALIZATION	INSTITUTE/COLLEGE	BOARD/UNIVERSITY	SCORE	YEAR
CLASS XII	PCM	Ashoka Universal School	ISC	93.8 %	2016
CLASS X	PCM	Barnes School and Junior College, Deolali	ICSE	94.33 %	2014

Subjects / Electives	Neural Networks & Fuzzy Logic, Deep Learning, Information Retrieval, Data Structures & Algorithms, Design & Analysis of Algorithms, Database Systems, Object Oriented Programming, Financial Management, Computer Networks
Technical Proficiency	Deep Learning, Neural Networks, Machine Learning, Tensorflow, Python, C++, Keras, Computer Vision, Natural Language Processing, Data Structures, Database Systems, Excel, Java, Convolutional Neural Networks, LaTeX, Blender

SUMMER INTERNSHIP / WORK EXPERIENCE

Intern, VMware Software India Pvt. Ltd.	Jan 2022 - Present
◦ Developing a Container Runtime for VMware ESXi hypervisor that is quick to provide a Linux ABI and support Linux Applications in a virtual environment	
Research Intern - Data & AI COE, Philips Innovation Campus	May 2021 - Jul 2021
◦ Developed Proof Of Concept with the Digital Research team for cloud deployment of the Horizon AI-enabled system provisioned to hospitals as a service	
◦ Resolved inter-component dependencies of Cloud Architecture facilitating intelligent classification of hygiene parameters in radiology scans (X-rays, MRI)	
◦ Developed console application to assist the team in debugging channel communications efficiently that helped save on potentially tens of hours of effort	
Deep Learning Intern, Mysuru Consulting Group	Aug 2020 - Sep 2020
◦ Employed transfer learning techniques on CNN architectures and detection of hotel amenities for holistic aesthetic classification and rating of hotel rooms	
◦ Developed a design framework for a client-specific Chatbot and the Natural Language Understanding unit for intent classification and entity recognition	
Intern, Cortex Technologies	Aug 2019 - Feb 2020
◦ Early member of a startup developing electroencephalography (EEG) based mind-controlled prosthetics that are powered by electrical brain signals	
◦ Led a design team of two, designed and modeled an EEG headset for reading signals, components of the prosthetic arm and 3D printing prototypes	
◦ Developed early-stage Machine Learning model for EEG data semantic interpretation and object detection for effective interaction of the prosthesis	
Summer Intern, Indian Red Cross Society National Headquarters	May 2019 - Jul 2019
◦ Collaborated in a team to develop the front-end and archiving of a fully-interactive electronic newsletter to revamp the organization's existing newsletter.	
◦ Ensured a friendly platform that enabled anyone not versed with HTML to work with the newsletter in the future and that the webpage was printer-friendly	
◦ Additionally volunteered to promote and extend the reach of the organization's centenary celebrations event, and volunteered time in the blood bank	

PROJECTS

Crop Disease Identification (Study Project under Dr. Jennifer Ranjani) - Deep Learning/Computer Vision	Aug 2020 - Dec 2020
◦ Leveraged multiple loss functions, image augmentation techniques and CNN architectures for multiclass classification with an imbalanced dataset	
◦ Achieved a better accuracy of 70.71% , top-5 accuracy of 95.57% and F1 score of 0.70 than existing works on real-world representative data	
◦ Paper accepted at 4th International Conference on Computing and Communication Technologies (ICCCT'21) for oral presentation and publication	
Vector space-based Information Retrieval system - Information Retrieval/NLP	Apr 2021 - May 2021
◦ Implemented a vector space-based Information Retrieval system for ranked retrieval of documents from a Wikipedia Corpus on user-input queries.	
◦ Incorporated Champion Lists for faster retrieval and explored the FastText library based on word2vec embeddings for enriching user queries	
◦ Implemented the BM25 ranking retrieval function as well for improving performance and consistently achieved a precision of over 70% on user queries	
Text Summarization with Pretrained Encoders - Deep Learning/NLP	Apr 2021 - Apr 2021
◦ Replicated an EMNLP paper to showcase how BERT can be applied as a general framework for both extractive and abstractive text summarization	
◦ Achieved comparable results with the baseline in the Extractive (0.4237 against 0.4325) and reasonable in the Abstractive (0.3066 against 0.4213) tasks	
◦ Extended the paper repository's functionality making it possible for anyone to train the framework on a text summarization dataset of their choice	
Thesis: Improving Visual Question Answering Systems - Deep Learning/Computer Vision/NLP	Aug 2021 - Present
◦ Carrying out a comprehensive study of past VQA approaches and datasets and identifying gaps to alleviate language biases of present VQA systems	
◦ Employing self and guided attention mechanisms to optimally capture and synergize relevant visual and linguistic semantics for scene understanding	
◦ Exploring transformer based architectures for image and language inputs and mechanisms for multimodal fusion of features for effective answers	

CERTIFICATIONS

CERTIFICATION	CERTIFYING AUTHORITY	DESCRIPTION
Deep Learning Specialization	deeplearning.ai, Coursera	5 courses: Neural Networks and Deep Learning Improving Deep Neural Networks Structuring Machine Learning Projects Convolutional Neural Networks Sequence Models
TensorFlow Developer Professional Certificate	deeplearning.ai, Coursera	4 courses: Introduction to TensorFlow for AI, ML and DL Convolutional Neural Networks in TensorFlow Natural Language Processing in TensorFlow Sequences, Time Series Predictions

COMPETITIONS

Business Plan Competition at IIM Rohtak	Jan, 2020
Runner-up team at Business plan pitch competition representing Cortex Technologies, a startup developing EEG based "mind-controlled" prosthetics.	