

## EDUCATION

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- **Carnegie Mellon University** Pittsburgh, PA  
*Master of Science in Machine Learning, School of Computer Science* Aug. 2019 – Dec. 2020
- **Indian Institute of Technology, Kharagpur** West Bengal, India  
*Bachelor of Engineering in Computer Science and Engineering; GPA: 4.0 (9.72/10.0)* Aug. 2013 – July. 2017

## PROFESSIONAL EXPERIENCE

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- **Qeexo** Pittsburgh, USA  
*ML Research Intern (Master's Summer Training)* June, 2020 - Aug, 2020
  - **AutoML - App for ML on Sensor-Data:** Worked on off-device and on-device Real-Time Clustering on Sensor data & Visualization
- **Adobe Systems** Noida, India  
*Senior Software Development Engineer (SDE II)* June, 2017 - Aug, 2019
  - **Vector Graphics Editing App:** Development of vector image editing iOS app based on Adobe Illustrator, in particular on Pen, Direct Selection and Snapping tool.
  - **Experience Manager:** Handled both front-end and back-end aspects of Interactive Communication Applications, Data Integration Services, Document Fragment and Letter-based Services, as a part of cloud suite solution for business process automation services
- **Adobe Big-Data Experience Lab (BEL), Adobe Research** Bangalore, India  
*Research Intern, Bachelor's Summer Training* May 2016 - July, 2016
  - **Data Analytics:** Analytics of Multi-Channel Customer Data using Applied Machine Learning models and to predict customer affinity comparisons for interaction in a specific channel, given limited information of interaction across other channels too.
- **IBM India Research Laboratory (IRL)** New Delhi, India  
*Research Intern (UG Summer Training)* May 2015 - June, 2015
  - **Semantic Knowledge Graph:** Supervised Training and Blended Learning for construction of Knowledge Graph model by discovering relations and establishing links between graph nodes; Used text-mining tools; Entity-Extraction, Part-of-Speech Tagging and Similarity Detection to obtain 3D visualization of the growing Knowledge Graph.

## PROJECTS

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- **Music Generation with Generative Adversarial Networks (ML Term Project, CMU):** Music-piece generation through more advanced deep learning techniques like GANs and VAE-GANs. The aim is to provide these models with arbitrary notes and let them begin amending the pieces gradually until one finds them producing good pieces of music. [ [Project Report](#) ]
- **Course Management System (DBMS Term Project):** Developed a complete web-based prototype model for online course design, course calendar publishing, content administration, assignments, and assessments with student registrations and features for self-paced learning - mail service, file transfer, chat forum, calendar, notifications and quizzes
- **Software Component Cataloguing (SoftEngg Term Project):** A fully functional GUI Software for maintaining a catalogue of various available Software Components, documented using UML diagrams, allowing their potential code reuse.
- **Citation Analysis using Deep Neural Networks (Bachelors Thesis Project):** Designed framework to label the sentiment an author carried while citing a given paper, using Deep Supervised Learning. [ [Project Report](#) ]
- **Researcher Recommendation System: (IR Term Project):** Developed a search and recommendation engine for Scientific Research Community to cluster similar authors based on their co-author graph to recommend new co-authors to an author.

## PUBLICATIONS

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- **Towards Frequency-Based Explanation for Robust CNN:** Analysed the connection between the distribution of frequency components in the input data and the reasoning process the model learns from the data and provided quantitative analysis about the contribution of different frequency components toward the model's predictions. [ [Project Code](#), [Publication URL](#) ]
- **Supporting Throughput Fairness in IEEE 802.11ac Dynamic Bandwidth Channel Access:** Developed a hybrid adaptive resource reservation mechanism, Hybrid Adaptive DBCA (HA-DBCA) for supporting fair channel access in Dynamic Bandwidth Channel Access (DBCA) [Publication URL](#)

## PROGRAMMING SKILLS

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- **Languages:** Python, JAVA, C++, R, MATLAB, Javascript, SQL, Java    **Technologies:** PyTorch, Tensorflow, Numpy, OpenCV, Scikit-learn, Caffe

## RELEVANT COURSEWORK

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- **Masters:** Machine Learning, Convex Optimization, Probabilistic Graphical Models
- **Bachelors:** Information Retrieval, Speech & Natural Language Processing, Artificial Intelligence, Deep Learning