# Ayush Bhandari

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## EDUCATION

Sep 2018- Dec 2020 **Master of Science in Data Science** 3.46/4 *Northeastern University, Boston, MA*
Relevant Courses: Algorithms, Data Management and Processing, Deep Learning, Information Visualization, Natural Language Processing, Supervised Machine Learning and Learning Theory, Unsupervised Machine Learning and Data Mining, Large Scale Parallel Data Processing

Jul 2014- Jun 2018 **Bachelor of Engineering in Computer Science** *Birla Institute of Technology,India*
Relevant Courses: Data Structures, Algorithms, Soft Computing, Database Management Systems, Data Mining and Data Warehousing, Software Engineering, Object Oriented Programming, Parallel and Distributed Systems

## TECHNICAL SKILLS

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| Languages | Python, Java, C#, R, HTML, SCSS, JavaScript, SQL |
| Frameworks | AngularJS, .NET |
| Packages | Pandas, NumPy, Scikit-Learn, TensorFlow, Keras, Matplotlib, Seaborn, PyTorch, OpenCV, NLTK, Boto, SQLAlchemy |
| Big Data | Hadoop, Map Reduce, HDFS, PySpark, RDD |
| Software | Visual Studio, RStudio, Jupyter Notebook, Azure Data Studio, Microsoft SQL Server Management Studio, Git, Jira |
| Databases | MySQL, SQL Sever |
| Cloud | Amazon Web Services (EC2, S3), Microsoft Azure (Microsoft Cognitive Services, Azure DevOps) |
| Machine Learning | Regression, Clustering, Classification, Dimensionality Reduction, Topic Modeling, Deep Learning, Hypothesis Testing, Predictive Modeling |

## WORK EXPERIENCE

May 2019- Dec 2020 **Graduate Teaching Assistant** Khoury College of Computer Sciences, Boston, MA
- Served as teaching assistant for graduate level course Data Mining Techniques(CS6220)
- Contributed to development of appropriate teaching materials to ensure content and methods of delivery meet learning objectives
- Participate in the assessment process using a variety of methods and techniques and provide effective timely and appropriate feedback to students to support their learning

Jan 2020- Aug 2020 **ML Engineer Intern** Examity Inc., Newton, MA
*V5 Platform*
- Created Face Verification page in exam workflow leveraging Microsoft Cognitive Services API and achieved perfect matching for 70% images with 0.4 threshold enabling automatic test-taker authentication
- Migrated exam videos from Rackspace to AWS S3 for creating models to enhance flagging
- Customized automated flagging to be enabled or disabled as per client's request
- Added Amplitude logging to all UI CTAs of the Angular application for test taker interface to capture all events triggered by user interaction
- Resolved various full-stack bugs in the Angular application as well as extension component

Feb 2018- Jul 2018 **Software Engineering Intern** Genus Power Infrastructures Ltd., Jaipur, India
*DB-Urja Nxt*
- Compiled and generated Client-side reports in C# using Microsoft RDLC for visualization of electrical meter data from SQL server

*6-Channel DC Wave Data Logger*
- Developed a protocol in C# for downloading data from micro controller to a pc via UART
- Implemented code for UART and EEPROM in embedded C for micro controller TI MSP 430 to store data and transfer it to a computer

## ACADEMIC PROJECTS

Oct 2020- Dec 2020 Image De-Identification Using Deep Learning
- Built GAN using U-NET architecture for anonymizing images retaining gender, background and ethnic information
- Achieved similarity of less than 0.3 on matching original and anonymized image using Microsoft Cognitive Services Face API

Oct 2019- Dec 2019 Question Answer Modeling Using Deep Learning
- Designed a baseline embedding + extraction model for answering questions specific to a context based on cosine similarity and named entity recognition thereby acquiring $F_1$ score of 0.46 on where, when and who questions
- Restructured baselined model utilizing BiDAF for improving answer span to contain the specific portion of context thus attaining $F_1$ 0.58 for 0.1 learning rate and 30 epochs

Jan 2019- Apr 2019 Multi Label Image Classification of Yelp Image Dataset
- Implemented CNN-RNN with SPP (Spatial Pyramid Pooling) to classify businesses using images
- Compared performances of AlexNet, AlexNet-RNN with and without SPP using $F_1$ score as a criterion where AlexNet-RNN with a score of 0.72 predicted best sequence of labels