

# Oyesh Mann Singh

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## Education

University of Maryland Baltimore County, MD **08/2017-12/2020**  
Masters of Science in Computer Science GPA-3.756/4

Kathmandu Engineering College, Nepal **05/2007-12/2011**  
Bachelors of Science in Computer Science GPA-70.11/100

## Technical Skills

- **Programming Languages** - Python, R, Java, C++, HTML, CSS, ReactJS, Bash
- **Database** - MySQL, PostgreSQL, NoSQL (MongoDB)
- **Others** - Linux, PyTorch, Github, AWS services, Numpy, NLTK, Pandas, Sklearn, Flask, Django, REST API, Docker, Kubernetes, Apache Airflow, CI/CD pipeline (Github Actions, Travis CI), Redis

## Professional Experience

### Research Intern

NAAMII, Kathmandu, Nepal **06/2020-08/2020**

- Developed a non-parametric Bayesian Model for unsupervised morphological segmentation task. Deployed this ML model as a web app on AWS Elastic Beanstalk following CI/CD pipeline using Github Actions

### Research Intern

HLTCOE, Baltimore, MD **06/2019-08/2019**

- Increased the entity-tagged dataset volume by 500% by introducing more Wikidata classes and IDF scores in existing Wikipedia framework especially for Chinese and Russian languages
- Improved the NER F1 score by 4% for Chinese language by pre-training BERT with newly obtained dataset compared to the BERT-base

### Data Intern

Relus Cloud Technologies, Atlanta, GA **06/2018-08/2018**

- Successfully completed two major Data Ingestion Pipeline projects on AWS platform to extract millions of real-time records from wearable devices, transform using AWS Lambda scripts and loading into AWS DynamoDB

### Teaching Assistant

UMBC, Baltimore, MD **08/2017-12/2020**

- Assisted 30-40 students in undergraduate courses (Data Structure, Computer Architecture and Data Science) and graduate course (Advance Operating Systems) with excellent feedback from students and professors

### Software Developer

Lamar University, Beaumont, TX **03/2015-05/2017**

- Enhanced Chemical Analyzer Barometer (CAB) software using auto-thresholding technique of Otsu's method to properly detect the edges of water droplets
- Added GUI features in Excel Merge Utility software for more convenience assisting in further data analysis

### Associate Software Developer

Software Paradigm Infotech, Kathmandu, Nepal **01/2013-12/2014**

- Successfully deployed two projects in Credit Management and Reservation/Delivery domain for Macy's beating the deadlines earlier than expected
- Completed a research project to automatically generate SMS notifications based on voltage load in the building and dump voltage-level logs to database using Arduino

## Projects

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- **Crown Clothing Store** 12/2020  
Currently building a clothing store e-commerce web application based on ReactJS
- **Aspect Based Abusive Sentiment Analysis** 09/2019
  - Open-sourced first Aspect Based Abusive Sentiment dataset in Nepali language
  - This dataset is intended to identify the abusive words, perpetrator and victims
  - Trained BERT, BiLSTM and CNN models for Aspect Term Extraction and Polarity Classification task
- **Nepali Named Entity Recognition** 02/2019  
Completed first Nepali NER project achieving 86.9 overall F-score using BiLSTM + Grapheme-level CNN architecture. Deployed this NLP model on Heroku
- **Data Science 101** Oct 2018  
Participated in Kaggle competition to classify movie reviews and quora insincere questions
- **Data Analysis on 311 Dataset** 02/2018  
Led a team of four to analyze and build a predictive regression model to estimate the time taken for a neighborhood based on population of various races in Baltimore using 311 dataset of approximately 3 million records
- **Unsupervised Learning using JigsawPuzzle** Sep 2017  
Developed unsupervised classification algorithm for medical images based on jigsawpuzzle as a pretext task with accuracy just 5% less than that of supervised

## Certifications

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- **M121: MongoDB Aggregation Framework** 09/2020
  - Gained extensive knowledge on building pipelines and using various aggregation techniques in MongoDB
- **AWS Certified Developer Associate** 11/2020
  - I am currently taking this course in Udemy
  - Gained extensive theoretical knowledge & hands-on experience with AWS Fundamentals (IAM, EC2, ELB, ASG, RDS, Aurora, S3, CLI, SDK, ECS, ECR, Elastic Beanstalk, CICD pipeline)
- **Apache Airflow** 11/2020
  - I am currently taking this course in Udemy
  - Creating DAG workflows, running Bash, Python, Postgres and Hive operators
  - Hands-on experience with various executors (Sequential, Local and Celery with RabbitMQ)
- **REST APIs with Flask/Python** 11/2020
  - Developed basic web applications to access databases/servers via REST APIs/SQLAlchemy
  - Created secure and reliable REST APIs which include authentication, logging, caching and blacklisting
- **Dockers and Kubernetes** 12/2020
  - Successfully completed Dockers and Kubernetes certification
  - Hands-on experience with building Docker based on multiple containers (Nginx/Postgres/Redis/NodeJS/ReactJS) and designing a CI/CD pipeline from scratch with Travis CI to deploy on AWS EB
  - Complete knowledge on Kubernetes cluster configuration and deployment to the Google Cloud Platform infrastructure