

Oyesh Mann Singh

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Education

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

Kathmandu Engineering College, Nepal **05/2007-12/2011**
Bachelor of Engineering in Electronics and Communication GPA-70.11/100

Technical Skills

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

Professional Experience

Research Intern

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

- Developed a non-parametric Bayesian Model for unsupervised morphological segmentation task. Deployed this model as a web app on AWS Elastic Beanstalk following CI/CD pipeline using Github Actions
- Github link - <https://github.com/oya163/gibbs>

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 domain for Macy's beating the deadlines earlier than expected
- Completed one research project to automatically generate SMS notifications based on voltage load in the building and dump voltage-level logs to database using Arduino. This project was one of the highly appreciated project in the company

Projects

- **Nepali Stemmer:** <https://nepali-stemmer.herokuapp.com> **04/2020**
Created and deployed rule-based stemmer in Nepali language on Heroku platform using Python/Flask framework. Created a pip module for future ease
- **Aspect Based Abusive Sentiment Analysis:** **09/2019**
<https://github.com/oya163/nepali-sentiment-analysis>
 - Created and open-sourced Targeted Aspect Based Abusive Sentiment dataset based on YouTube comments in Nepali language.
 - This dataset will not only help to classify sentiments but also help to identify who is targeting abusive words towards whom.
 - Trained mBERT and BiLSTM+CNN models for Aspect Term Extraction and Polarity Classification task
- **Nepali Named Entity Recognition:** <https://nepner.herokuapp.com/> **02/2019**
Completed first Nepali NER project achieving 86.9 overall F-score using BiLSTM + Grapheme-level CNN architecture. Deployed this NLP model with the help of Flask based web app on Heroku
- **Data Analysis on 311 Dataset:** <https://github.com/oya163/R-project> **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

Certifications

- **MongoDB Aggregation Framework** **10/2019**
 - Completed M121: The MongoDB Aggregation Framework course.
 - Gained extensive knowledge on building pipelines and using various aggregation techniques in MongoDB
- **AWS Certified Developer Associate** **11/2019**
 - This course is in progress and I plan to finish this course by November.
 - Gained theoretical & practical knowledge with AWS Fundamentals (IAM, EC2, ELB, ASG, RDS, Aurora, S3, CLI, SDK, ECS, ECR, Elastic Beanstalk)
- **Apache Airflow** **11/2019**
 - This course is in progress.
 - I have learned creating DAG workflows, running Bash, Python, Postgres and Hive operators
 - Hands-on experience with various executors (Sequential, Local and Celery with RabbitMQ)