

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

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

Technical Skills

- **Programming Languages** - Python, R, Java, C++, C#/.NET, Javascript, Bash
- **Database** - MySQL, PostgreSQL, NoSQL (MongoDB)
- **Framework** - Flask, Django, ReactJS
- **Cloud** - Amazon Web Services (AWS)
- **Others** - PyTorch, Github, 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 with 74.8% F1-score. Deployed this ML model as a web app on AWS Elastic Beanstalk following CI/CD pipeline using Github Actions

Research Intern

Johns Hopkins University, Baltimore, MD **06/2019-08/2019**

- Automated the dataset annotating task using Wikidata relationship and increased entity-tagged dataset volume by approximately 500% by scraping the Wikipedia articles in English, Chinese and Russian languages.
- Improved the NER CoNLL F1-score by almost 4% for Chinese by fine-tuning BERT model on this larger dataset, compared to the one without fine-tuned.

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 (Python/NodeJS) 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 in core Java to detect the edges of water droplets, increasing the accuracy by 80%
- Added GUI features to work with CSV files for more convenience assisting in further data analysis

Associate Software Developer

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

- Successfully completed two projects in C#/.NET and COBOL under Credit Management and Reservation/Delivery domain for Macy's
- 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

- **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 Sentiment dataset in Nepali language containing 5135 YouTube comments
 - Achieved 57.98% F1-score on Aspect Term Extraction and 81.60% F1-score on Polarity Classification task using BERT machine learning model
- **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 using various ML algorithms like Logistic Regression, SVM, kNN, Naive Bayes and Neural Networks
- **Data Analysis on 311 Dataset** 02/2018
Led a team of four to analyze and built a predictive regression model to estimate the time taken for neighborhoods based on population of various races in Baltimore using [311 Open Baltimore dataset](#)
- **Unsupervised Learning using JigsawPuzzle** Sep 2017
Developed an unsupervised classification algorithm for medical images based on jigsawpuzzle as a pretext task with accuracy just 5% less than that of supervised model

Certifications

- **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