

# Ashutosh Tiwari

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## EDUCATION

### Indiana University

Master of Science in Data Science (Computational and Analytical Track)

Bloomington, IN

Aug. 2021 – May. 2023

### National Institute of Technology

Bachelor of Science in Computer Science

Patna, India

Aug. 2011 – Jun. 2015

## WORK EXPERIENCE

### Senior Software Dev Engineer

Jan. 2019 – Jul. 2021

[SWIGGY](#)

DATA SCIENCE PLATFORM, TIME SERIES FORECASTING

- Worked on Feature Store and pipeline which feed on-demand features to deployed ML models at production scale.
- Founding member of Forecasting and Correlation Platform which is used by teams to forecast concerned time series.
- Led DAQ, which is a tool used to scrape APIs at scale. Used to collect data for analysis/ model training.

### Software Development Engineer(ML)

Sep. 2017 – Jan. 2019

[FLIPKART \(a Walmart company\)](#)

SEARCH RELEVANCE, QUERY INTENT, NLP

- Was involved in improvements/inception of search intent models(CRF/Neural Network based), identifying error classes, coming up with solutions, and fixing them.
- Worked on Fast text based query store classifier, which predicts the category of a query.
- Wrote the first workflow to automate training and auto-deployment of various search models. First was written using Luigi and later migrated to Airflow.
- Wrote a generic framework using Airflow which at runtime creates generic dags for different ML models and orchestrates their training to deployment flow, including data and model validations.
- Used Cascading/HDFS to extract data from user events and then transform it to be used for training our models.

### Software Development Engineer

Sep. 2016 – Sep. 2017

[GROUPON](#)

BACKEND ENGINEERING

- Worked on a component called Cyclops, an interface between Customer representatives and internal services

### Software Engineer

Sep. 2015 – Aug. 2016

[NETSPEED SYSTEMS](#)

GRAPH ALGORITHMS, NETWORK ON CHIP

- Worked on many modules like Polarity based Arbitration, Multi-Cast Filtering, Structural Latency Breakdown etc.

## RESEARCH EXPERIENCE / INDEPENDENT STUDY

Working on [Fairness Aware AI from Biased Models](#) at [CNetS](#) with [Prof. YY Ahn](#) and Postdoctoral Fellow [Sadamori Kojaku](#) since Summer 2022

## TEACHING EXPERIENCE

Teaching Assistant for Network Science (INFO-I 606) with [Prof. YY Ahn](#)

Spring 2022

## SELECTED PROJECTS

**BiasNet** | *Deep Reinforcement Learning, PyTorch, Actor Critic Algorithm, On-policy Model Free*

[Code/Report](#)

- Learning to fight in [Street Fighter II](#) with induced relational bias from differential game scenes

**DeepFoodie** | *Python, Tensorflow, Self Supervised Deep Clustering, Deep Learning, Transfer Learning*

[Code/Report](#)

- Clustering dishes on basis of their ingredient embeddings

**Continuous Dominant Set Repair** | *C++, Graph Algorithms, Guha and Khuller's Algo., Greedy*

[Code](#)

- Repairs a broken link in Continuous Dominant Set in  $O(\Delta^2)$ , where  $\Delta$  being the avg cardinality of connected graph

**Humana Mays Healthcare Analytics Case Competition** | *Boosted Trees, Feature Engineering*

[Code](#)

- 11th [rank](#) on leaderboard. Hosted by TAMU and Humana Mays, 2021.

**AnalyticsVidhya Solutions** | *Python, Tensorflow, Torch, Time Series, Feature Engineering, Catboost*

[Code](#)

## TECHNICAL SKILLS

Computational ML, NLP, Computer Vision, DL, Akka, Distributed Systems, Spark, HDFS, Python, Scala, Java, C++

**Frameworks/Libraries/Tools:** Pytorch, Tensorflow, Sklearn, Numpy, Pandas, Matplotlib, AWS, Neo4j

## RELEVANT COURSES SO FAR

Computational ML(B555), Deep Learning(E533), Reinforcement Learning(B659), Computer Vision(B657), Statistics(S520)