Ashutosh Tiwari

812-606-5974 | ashutiwa@iu.edu | checkashu@gmail.com | Linkedin | Homepage | GitHub

EDUCATION

Indiana University   Bloomington, IN
Master of Science in Data Science (Computational and Analytical Track) 3.83/4.0   *Aug. 2021 – May. 2023*

National Institute of Technology   Patna, India
Bachelor of Science in Computer Science 8.32/10.0   *Aug. 2011 – Jun. 2015*

RESEARCH EXPERIENCE / INDEPENDENT STUDY

- Working on **"Fairness Aware AI from Biased Models"** at CNetS with Prof. YY Ahn and Postdoctoral Fellow Sadamori Kojaku using Residual2Vec and other methods.   Summer 2022 - Spring 2023

- Worked in NLP Lab@IUB for about 6 months. Contributed extensively to design of TieML and Events' Timeline modelling. Fall 2021

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 (Acquired by Intel)   *GRAPH ALGORITHMS, NETWORK ON CHIP*

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

TEACHING EXPERIENCE

Teaching Assistant for Machine Learning (CSCI-B 555) with Prof. R Khardon   Fall 2022
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 Δ 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), Independent Study (Working on Fairness Aware AI and Bias manifolds)