TUJA KHAUND
DATA SCIENTIST

"A data enthusiast with 3+ years of experience handling large volume of structured and unstructured data for social media analysis. Seeking internship opportunities in the field of Data Science and Big Data Analytics."

EDUCATION

University of Arkansas at Little Rock, USA
PhD in Computer and Information Science **(Aug 2017 – Present)**
GPA: 3.66/4.0

Master of Science in Information Science **(Aug 2015 – Dec 2017)**
GPA: 3.66/4.0

EXPERIENCE

COSMOS Research Lab, UA Little Rock (Sep 2016 – Present)
Data Scientist

- Lead the analysis of social bot coordination project. Leveraged Python programming to collect data from Twitter's REST API from various real-world events. Used ORA to analyze their social and communication networks to study coordination.
- Used Botometer's API to identify bots, perform social network analysis to identify coordination patterns, used ORA to measure their influence in disseminating propaganda in information campaigns.
- Lead the analysis of Telegram data from Ukrainian Political parties' chat groups. Wrote python scripts to collect data from Telegram's API, to extract links and feed them to the web crawler tool.
- Analysis of YouTube data. Wrote SQL queries to manipulate multiple datasets of YouTube videos and comments data, and analyze the networks generated from ORA.
- Use social network analysis to identify patterns of coordination of bots in adverse information campaigns and study its influence in disseminating propaganda on the social media ecosystem.
- Lead the Social Cyber Forensics Team. Extract entities from Twitter data and use cyber forensics analysis tool, Maltego, to identify digital footprints.
- Using Twitter's Streaming API to extract tweets based on geolocation to identify blogs.

Emerging Analytics Center, UA Little Rock (Aug 2015 – Aug 2016)
Graduate Research Assistant

- Leveraged Python programming to mine data from Twitter using REST and Streaming APIs and analyze them to generate 3D networks using Python, PyOpenGL and PyJuggler.
- Successfully executed the 3D networks on the virtual CAVE.
- Developed and managed the EAC website.

Graduate Thesis, UA Little Rock (Aug 2015 – Aug 2017)
Comparative analysis of social media botnet detection approaches

- Used Twitter API to collect data based on hashtags such as #BeInconvenient and #HurricaneHarvey.
- Wrote Python scripts to extract usernames and hashtags from the tweets from the dataset.
- Used ORA to create a User-Hashtag network. The top recurring users and hashtags were calculated.
- For each top user, the bot scores were calculated using the Botometer API. This effort was replicated on two more bot detection tools and performed a comparative analysis.

TOP PROJECTS

Stocking rental bikes using BigQuery-ML

- Use BigQuery to access the Austin Bike share dataset. Wrote SQL queries to retrieve the training data. The data before January 01, 2018 was used as the training set.
- Built and trained a linear regression model on the training data. Model evaluation was conducted on the data from 2018.
- Used the model to predict the number of rides for a specific station and compared the mean values of predicted vs the actual riders.
- To understand the model's performance, conducted trend analysis by calculating the daily average riders per station over the years.

RESEARCH

- "Analyzing Social Bots and Their Coordination During Natural Disasters". Social, Cultural, and Behavioral Modeling. SBP-BRiMS, Washington DC, 2018.
- "Analyzing Social and Communication Network Structures of Social Bots and Humans", International Conference on Advances in Social Networks Analysis and Mining (ASONAM), Barcelona, 2018.
- "Measuring the Information-Foraging Behaviors of Social Bots Through Word Usage", International Conference on Advances in Social Networks Analysis and Mining (ASONAM), Barcelona, 2018.
- "A Novel Methodology to Identify and Collect Data from Relevant Blogs Leveraging Multiple Social Media Platforms and Cyber Forensics", The Fifth International Conference on Big Data, Small Data, Linked Data and Open Data (ALLDATA), Valencia, 2019.

PERSONAL INFO

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SKILLSET

- **Programming and Analysis Tools**

Python, SQL, R, RDBMS, Jupyter Notebook, Anaconda, PL/SQL Developer, Tableau, Power BI, MySQL, BigQuery, Database, SQL Server, Google Analytics, MS Excel, MongoDB, ETL, ORA, Gephi, Maltego.

- **Statistical Concepts and Libraries**

Machine Learning, Data Mining, Statistical Analysis, Linear Regression, Logistic Regression, Topic Modeling, Pandas, NumPy, regex, scikit-learn, Scipy, NLTK, matplotlib, ggplot2, Scrapy, Network Analysis.

- **Source & Version Control**

Git, Slack, Trello.

CERTIFICATIONS

- **Coursera:** Python, Data Science
- **Cognitiveclass.ai:** R, Data Science, Big Data, Hadoop, Spark, Map-Reduce.
- **NVIDIA:** Deep Learning for Computer Vision.
- **Carnegie Mellon University:** Social Network Analysis, Dynamic Network Analysis, Text Mining and Visualization, Simulation etc.
- **Kaggle:** SQL Summer Camp 2019.

ACHIEVEMENTS

- SBP-BRiMS Service Award, 2019.
- UA Little Rock Graduate School Travel Award, 2019.
- UA Little Rock EIT Travel Award, 2019.
- SBP-BRiMS Travel Scholarship, 2019.
- 2nd Place Graduate Award in UA Little Rock Student Research and Creative Works Expo, 2019.
- 1st Place Complete Solution Award in UA Little Rock EIT Open House, 2018.
- 1st Place Graduate Award in UA Little Rock Student Research and Creative Works Expo, 2018.
- SBP-BRiMS Travel Scholarship, 2018.
- UA Little Rock Graduate School Travel Award, 2018.
- UA Little Rock Dean's List, Fall 2014 & Spring 2015.
- UA Little Rock Chancellor's List, Fall 2014.

VOLUNTARY

- Web Chair at SBP-BRiMS since Aug 2018+.