Raka Dalal

Aspiring Data Scientist

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Education

University of Maryland Baltimore County- Baltimore, MD *Aug 2016 - Aug. 2018*

Masters in Computer Science *GPA: 4.0/4.0*

- **Relevant Courses:** Algorithms, Machine Learning, Natural Language Processing, Database Systems

Jadavpur University - Kolkata, India *Aug 2012 - May 2016*

Bachelor of Engineering in Computer Science and Engineering *GPA: 3.3/4.0*

Online courses *June 2018 - Aug 2018*

Data Science A-Z (Udemy), Deep Learning A-Z (Udemy), Deep Learning (Udacity)

Experience

UMBC *Baltimore, MD*

Graduate Research Assistant *Jan 2017 - May 2018*

- Developed a novel methodology that uses a semi-supervised bootstrap learning based approach to automatically extract different relations from cybersecurity text with limited training samples and populate a knowledge graph.

General Electric *GRC, Niskayuna, NY*

Research Fellow Intern *May 2017 - Aug 2017*

- Built a semi-supervised bootstrap learning based approach to extract relations from unstructured industrial text with an iterative user feedback loop.

Samsung Research & Development *Bangalore, India*

Summer Research Intern *May 2015 - July 2015*

- Detected the level of stress of user using raw accelerometer and gyroscope data. Filtering and Principal Component Analysis were applied on the data to get the resultant signal. Fast Fourier Transform of this final data gave the heart rate which was used to find out if a person is stressed.

IIT Kharagpur *Kharagpur, India*

Summer Research Intern *May 2014 - July 2014*

- The project involved mining of GPS data of trucks on Indian Roads to detect hotspots based on stopping time and then typecast them with respect to stopping time distribution, busyness distribution and finally visualize them on Indian roads.

Publications

Generating Digital Twin models using Knowledge Graphs for Industrial Production Lines *Troy, NY, USA*

Industrial Knowledge Graphs, co-located with the 9th International ACM Web Science Conference 2017.

- We introduced a simple way of formalizing knowledge as digital twin models coming from sensors in industrial production lines by presenting a way to extract and infer knowledge from large scale production line data, and enhancing manufacturing process management with reasoning capabilities, by introducing a semantic query mechanism.

Projects

Intelligent Cybersecurity Recommender *Feb 2017 - Apr 2017*

Cybersecurity Research

- Designed an effective system that analyzes the probable vulnerabilities and suggests/recommends the least vulnerable products. It works on question-answer(Q/A) based model where the system admin is expected to ask product vulnerability questions to the system, to which the system suggests a right option.

Web Server Development of Jadavpur Server for CMATER, Jadavpur *Feb 2014 - Apr 2014*

Software Engineering, Web Development

- Built a web server application where user inputs two or more uniprot id. The fasta sequence is fetched from the uniprot server, parsed and input into a svm. The output is parsed and the interaction network is plotted. The image is then sent back to client for visualization.

Medical Image Processing *Feb 2016 - Apr 2016*

Pattern Recognition & Image Processing

- Propsed an efficient segmentation scheme for medical images.

Technical Skills

Languages	Python(Most Experienced), C, C++, C#, Java, MATLAB, Octave
Tools/Frameworks	PyTorch, Keras, TensorFlow, SciKit Learn, NumPy, SciPy, Pandas, Tableau, Gretl
Database Concepts	SQL, PL/SQL