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UTKAL SINHA

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PROFESSIONAL EXPERIENCE

Engineer (Analytics) **Unisys Corporation** **July, 2018 – present**

- Currently working on building a **Chatbot** for air cargo transactions as part of **Unisys AIFocus Group** initiative.
- Currently working on **DeepFake biometric (fingerprint)** generation and detection using deep learning techniques like **Generative Adversarial Networks (GANs)** as part of **Unisys Research**.
- Used actual historical data of 3 international Airlines to build a risk scoring predictive model - **Air Cargo Smuggling and Fraud** detection using Machine Learning, NLP, and statistical methods. Implemented in Scala using Apache Spark. Developed model included in the product release LineSight 2.3.
- Actively collaborating with Data Scientists, team members and SMEs for solving predictive risk scoring problems.

Associate Engineer **Unisys Corporation** **June, 2016 – July, 2018**

- Built Air Cargo Value Anomaly prediction model in **Scala** using Machine Learning and productionized using technologies like **Apache Spark**, **Spark Structured streaming** and H2O.ai **Sparkling Water**. Developed model included in the product release LineSight 2.1.
- Implemented a **Vert.x** module in Java to stream data from **MongoDB** to any **Apache Kafka** topic.
- Designed and implemented new **Apache Nifi** data flows for stream message transformations.
- Implemented message parsing modules in Java using **ABNF grammars** and parser generators like **parse2** and **APG** parser generators.

RESEARCH EXPERIENCE

Research Intern **Unisys Corporation** **June 2015 – July 2016**

- Designed and implemented a QoS supported gateway virtual network function for InfiniBand and Ethernet networks. Research is presented and published in multiple international conferences – IEEE and Springer.
- Presented my research work to org. via multiple tech talks.

TECHNICAL SKILLS

- Programming Languages: **Scala, R, Python 3.5, Java, C/C++**.
- Technologies: Google DialogFlow, Google Assistant, Apache Spark, Apache Kafka, Apache Zeppelin, Apache Nifi, APG Message Parsing, Vert.x, MongoDB, Tableau, Gretl.
- Areas of experience: Machine Learning, Deep Learning, Distributed Computing, Stream processing, Micro-Services, Chatbots.

EDUCATION

- **Master of Technology (M. Tech) in Computer Science**
National Institute of Technology, Rourkela (July 2014 – June 2016)
GPA: 7.76 / 10
Thesis: A QoS supported gateway virtual network function for InfiniBand and Ethernet networks.
- **Bachelor of Technology (B. Tech) in Computer Science and Engineering**
National Institute of Technology, Silchar (July 2008 – June 2012)
GPA: 7.09 / 10
Project: An energy efficient MAC layer protocol for wireless sensor networks.

PUBLICATIONS

- U. Sinha, R. Dash, A. T. Chakkan and N. J. Kopri, "Modelling and simulation of IP over InfiniBand with OMNeT++," **2017 IEEE 2nd International Conference on Man and Machine Interfacing (MAMI), Bhubaneswar, 2017**, pp. 1-6.

doi: 10.1109/MAMI.2017.8307872.

- Sinha U., Dash R., Kopri N.J. (2018) A Gateway Virtual Network Function for InfiniBand and Ethernet Networks. In: Negi A., Bhatnagar R., Parida L. (eds) **Distributed Computing and Internet Technology. ICDCIT 2018. Lecture Notes in Computer Science, vol 10722. Springer, Cham.**
- Utkal Sinha and Mayank Shekhar. Comparison of Various Cloud Simulation tools available in Cloud Computing. International Journal of Advanced Research in Computer and Communication Engineering, 2015, pp. 171-176
- Utkal Sinha and Pramodh Mallesh Bettadapura. Whitepaper on Blockchain: A secure and trustless platform. Published in the Unisys Corporation internal network, 2016
- Utkal Sinha and Pramodh Mallesh Bettadapura. Whitepaper on ARPM: A blockchain based automatic repeat prescription monitor. Published in the Unisys Corporation internal network, 2016.

ACHIEVEMENTS AND AWARDS

- **Codechef rated Orange coder** with maximum rating of **2216** (handle: *utkalsinha*)
- Recipient of Unisys Quarterly award for delivering a Tech talk & Demo on Blockchain to the Technology Innovation community.
- Recipient of **Unisys Young Innovator Award 2016** – In recognition of the outstanding contribution to **Research & Innovation**.
- Ranked in the **top 5** in the **Unisys Think20/20, 2016** paper submission contest.
- Recipient of Ministry of Human Resource Development (**MHRD**) **scholarship** at NIT Rourkela, India, **2014-2016**.
- Secured **98.6 percentile** in all India **GATE (Computer Science)** examination, 2014.
- Won the **2nd** prize in underwater submarine Robotic Competition in the Technical festival named Technosis held at NIT Silchar.

CERTIFICATIONS

- **Data Science A-Z™: Real-Life Data Science Exercises Included** MOOC course at Udemy.com.
- **Machine Learning course** organized by **Associate Professor Dr. Andrew Ng**, *Computer Science Department, Stanford University*. This certificate authorized by Stanford University and offered through Coursera
- **Neural Networks and Deep Learning** organized by **Dr. Andrew Ng**. This certificate authorized by **deeplearning.ai** and offered through Coursera.
- **The Data Scientist's Toolbox** organized by **Jeff Leek (PhD), Roger Peng (PhD), and Brian Caffo (PhD)**. This certificate authorized by **Johns Hopkins University** and offered through Coursera.
- **R Programming** organized by **Jeff Leek (PhD), Roger Peng (PhD), and Brian Caffo (PhD)**. This certificate authorized by **Johns Hopkins University** and offered through Coursera.
- **Scalable Programming with Scala and Spark** MOOC course at Udemy.com.
- **Apache Kafka series** MOOC course at Udemy.com.
- **Introduction to Apache Nifi (Hortonworks DataFlow – HDF 2.0)** MOOC course at Udemy.com.
- **Vert.x 3.5** Java API's Fast and Simple MOOC course at Udemy.com.
- **Intro to Python for Data Science Course** organized by **datacamp.com**. *Certificate number #2388208*.
- **Docker Mastery: The Complete Toolset from a Docker Captain** MOOX course at Udemy.com.

INTERESTS

- Competitive Programming (Active mostly on Codechef.com).
- Chess (FIDE Arena 1772).