

Jees Augustine

. ALGORITHM . DATABASE . DATA SCIENCE . DEEP LEARNING . GRAPHS . MACHINE LEARNING .

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EDUCATION

Ph.D. Computer Science and Engineering

University of Texas at Arlington, USA

(CGPA: 4.0/4.0)

Arlington, Texas

Fall 2014- Fall 2019(Exp)

Master in Engineering . Computer Science and Engineering

Birla Institute of Technology & Science, Pilani, India

(CGPA: 8.19/10.0)

Pilani, India

Fall 2011- Fall 2013

PROFESSIONAL EXPERIENCE

Cisco Systems - India

SOFTWARE ENGINEER II

- Implementation and refinement of features in **Multi-Protocol Label Switching (MPLS)** and **Fast Rerouting (FRR)** on mobile backhaul networks.

Bangalore, India

Aug-2013 – Aug-2014

EMC Corporation

PROJECT INTERN

- Design and development of an application, choreographing the Backup Server Install/Upgrades in **Python**.
- Devising a **pseudorandom number generator** for verifying the client-side deduplication.

Bangalore, India

Jan-2013 – Jun-2013

Indian Institute of Technology - Chennai

PROJECT INTERN

- **Online Minimum Makespan Scheduling** with improved Buffer Size.

Chennai, India

May-2012 – Jul-2012

Vikram Sarabhai Space Center (VSSC)

PROJECT INTERN

- **Design of information warehousing** system for launch vehicle simulations using **JSP** and **MySQL**.

Trivandrum, Kerala

Nov-2009 – Jan-2009

PUBLICATIONS

- [Journal] Abolfazl Asudeh, **Jees Augustine**, Azade Nazi, Saravanan Thirumuruganathan, Sona Hasani, Nan Zhang, Gautam Das, Divesh Srivastava. “**Scalable Algorithms for Signal Reconstruction by Leveraging Similarity Join**”, Submitted to special issue of VLDB Journal on the best from VLDB 2018.
- [Poster] Abolfazl Asudeh, **Jees Augustine**, Azade Nazi, Saravanan Thirumuruganathan, Sona Hasani, Nan Zhang, Gautam Das, Divesh Srivastava. “**Database Techniques for Network Traffic Analysis**”, In *iPerform 2018*.
- [Conference] Abolfazl Asudeh, Azade Nazi, **Jees Augustine**, Saravanan Thirumuruganathan, Nan Zhang, Gautam Das, Divesh Srivastava. “**Leveraging Similarity Joins for Signal Reconstruction**”. *VLDB: Very Large Databases 2018*.
- [Poster] Abolfazl Asudeh, Azade Nazi, Saravanan Thirumuruganathan, **Jees Augustine**, Sona Hasani, Nan Zhang, Gautam Das, Divesh Srivastava. “**Finding the Closest Point to a Prior in Large-Scale Sparse Binary Under-Determined Systems**”, In *iPerform 2017*.
- [Poster] Azade Nazi, **Jees Augustine**, Saravanan Thirumuruganathan, Gautam Das, Divesh Srivastava, Nan Zhang. “**Finding Top-k Source-Destination Flows in a Network**”. In *iPerform 2016*.

AWARDS AND RECOGNITION

- VLDB - 2018 Travel Award
- DNE Kelcy Warren Scholarship 2019
- pVLDB Best Reproducibility Research Award 2018 for “Leveraging Similarity Joins for Signal Reconstruction” (*work will be featured in VLDB 2019*). -Link-
- Invitation to Special Edition of VLDB Journal 2018 (honor given to less than 1% of the accepted papers)
- Computer Science and Engineering STEM Doctoral Fellowship [Fall 2018 – Spring 2019]

RESEARCH GRANTS

- AT&T Research Grant, DBXLab University of Texas at Arlington Spring 2017
- Qatar Research Foundation Grant, DBXLab University of Texas at Arlington Spring 2018

TALKS

- **Database Techniques for Network Traffic Analysis**, *iPerform 2018*, University of Texas at Dallas.
- **Finding the Closest Point to a Prior in Large-Scale Sparse Binary Under-Determined Systems**, *iPerform 2017*, University of Texas at Arlington.

WORKING PROJECTS

- Experimental Analysis of a General Plug-in for Optimizing Distance Calls for Metric Space Proximity Problems (Submitted to VLDB 2019)
- Accurate Multi-Attribute Selectivity Estimation Using Deep Learning (Work in Progress)
- Computing **Top-K Nearest Neighbor Graph** through Crowdsourcing (Submitted to VLDB 2019)
- AEL: **Deep Learning Models** to Predict User's Spatial Locations Using GPS Data

SKILLS

Data Analysis	Pandas, NumPy, SciPy
Machine Learning	SciKit-Learn
Deep Learning	Keras, TensorFlow
Visualization	Matplotlib, Tableau(beginner)
Languages	Python, C, Java, HTML, JSP
Databases	MS Access, MS SQL Server, MySQL, Oracle
Web Technologies	HTML, XML, CSS, JavaScript
Query Languages	SQL, PLSQL

RELVANT COURSES

Advanced Computational Models and Algorithms . Special Topics in Advanced Information Security . **Machine Learning** . **Advanced Algorithms and Complexity** . Advanced Computer Networks . Advanced Operating Systems . **Algorithm Analysis and Design** . Security in Computing . **Data Analysis and Modeling** . Reasoning with Uncertainty .

CERTIFIED COURSES ONLINE - MOOC

▪ Coursera	Introduction to Data Science in Python	-Link-
▪ Coursera	Programming for Everybody, Getting Started with Python	-Link-
▪ Coursera	Python Data Structures	-Link-
▪ Coursera	Using Python to Access the Web Data	-Link-
▪ Coursera	Using Databases with Python	-Link-

ONGOING COURSES ONLINE - MOOC

▪ Coursera	Deeplearning.Ai
▪ Coursera	Machine Learning
▪ Coursera	Neural Networks for Machine Learning
▪ Udacity	Deep Learning from Google
▪ edx	Machine Learning for Data Science

PROJECTS

- Face Recognition using Support Vector Machines (SVM)** UTA, Sep 2014 – Dec 2014

Technology	Python2.7, NumPy, SciPy
Dataset	AT&T Image Dataset (40 different individuals)
Methodology	Principal Component Analysis for dimensionality reduction, SVM for classification
Accuracy	88% in Testing
- Image Recognition using Linear Discriminant Analysis (LDA)** UTA, Sep 2014 – Dec 2014

Technology	Python2.7, NumPy, SciPy
Dataset	AT&T Image Dataset (40 different individuals)
Methodology	Principal Component Analysis for dimensionality reduction, LDA for classification
Accuracy	94% in Testing
- Choreography of Backup Server Install/Upgrade** EMC-Corporation, Bangalore: Jan 2013 – Jun 2013

Technology	Python2.7, Linux, EMC Avamar, MySQL
Dataset	Proprietary, EMC corporation
Methodology	Choreograph the Software Upgrade , Generate Pseudo Number from Linux to test, Validation and Sanity Check
Deployment	for Internal Use at EM Corporation
- Live Migration of Virtual Machine over a Network** BITS, Pilani, Aug 2012 – Dec 2012

Technology	Java, Linux, MySQL, KVM
Dataset	Synthetic Dataset Generated

Methodology Premature Negotiation, Push-Pull Negotiation with source and destination
Deployment Experiential

5. **Middleware framework on the cloud enabling Semantic Dynamic Composition** BITS, Pilani, Jan 2012 – Dec 2012
Technology Java, Linux, MySQL
Dataset Synthetic Dataset Generated
Methodology Sematic module identification with Natural Language, compose brand-new cloud services based on requirement
Deployment Experiential
6. **Distributed System Simulator** BITS, Pilani, Sep 2011 – Dec 2011
Technology Java, Linux
Dataset Synthetic Dataset Generated
Methodology **Deadlock Detection, Deadlock Prevention**, Process Synchronization, **IPC**
Deployment Experiential
7. **Design of Information Repository System for Launch Vehicle** VSSC, ISRO, India Dec 2010 - Jan 2011
Technology JSP, MySQL, Apache Server
Dataset Proprietary flight data ISRO
Methodology **Deadlock Detection, Deadlock Prevention**, Process Synchronization, **IPC**
Deployment for Internal Use at VSSC, ISRO

TEACHING and MENTORSHIP

- **STEM Scholarship** for Graduate Teaching Assistant at long semesters at UTA. Fall 2014 – Current
- Graduate Teaching Assistant, **Secure Programming**, UTA. Fall 2017
- Graduate Teaching Assistant, **Advanced Topics in Database Systems**, UTA. Summer 2016
- Graduate Teaching Assistant, **Computer Networks**, UTA. Fall 2016, Spring 2016
- Graduate Teaching Assistant, **Computer Networks I: Protocols and Architecture**, UTA. Fall 2014 – spring 2015
- Teaching Assistant, **Data Structure and Algorithms**, Birla Institute of Technology and Science, India. Fall 2012
- Teaching Assistant, **Computer Networks**, Birla Institute of Technology and Science, India. Fall 2011 – Spring 2012

ACADEMIC ACHIEVEMENTS

- **1 among the 18 qualified** for BITSAT- Higher Degree Program (Computer Science), an **All India entrance examination** for admission into Master Degree by Birla Institute of Technology and Science, Pilani (BITS-Pilani), India.
- Secured **98.88 Percentile** in Graduate Aptitude Test in Engineering (**GATE**) in 2011 (**Written by .13M Students**).
- Project Forum Member (Masters) Computer Science Association BITS – Pilani.
- Secured **1st position** for presenting the paper “Self-Defending Networks-A Smarter Way to Defend” at **XTRIUM 09 v.20**, Technical Festival by Association of Electronics and Communication Engineering, MACE, Kothamangalam.
- Secured **2nd position** for presenting the paper “Self-Defending Networks with Automatic Intrusion Detection” at **Qbit’09 v.20**, Technical Festival organized by Department of Computer Science and Engineering, MACE, Kothamangalam.