Jees **Augustine**

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

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EDUCATION

Ph.D. Computer Science and Engineering — Arlington, Texas
University of Texas at Arlington, USA — Fall 2014 - Fall 2019(Exp)
(CGPA: 4.0/4.0)

Master in Engineering . Computer Science and Engineering — Pilani, India
Birla Institute of Technology & Science, Pilani, India — Fall 2011- Fall 2013
(CGPA: 8.19/10.0)

PROFESSIONAL EXPERIENCE

Cisco Systems - India — Bangalore, India
SOFTWARE ENGIEER II — Aug-2013 – Aug-2014
- Implementation and refinement of features in **Multi-Protocol Label Switching (MPLS)** and **Fast Rerouting (FRR)** on mobile backhaul networks.

EMC Corporation — Bangalore, India
PROJECT INTERN — Jan-2013 – Jun-2013
- 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.

Indian Institute of Technology - Chennai — Chennai, India
PROJECT INTERN — May-2012 – Jul-2012
- **Online Minimum Makespan Scheduling** with improved Buffer Size.

Vikram Sarabhai Space Center (VSSC) — Trivandrum, Kerala
PROJECT INTERN — Nov-2009 – Jan-2009
- **Design of information warehousing** system for launch vehicle simulations using **JSP** and **MySQL**.

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 .**

CERTFIED 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

1. 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

2. 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

3. 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

4. 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.