SUDESHNA PAL

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EDUCATION

Stony Brook University • New York, U.S.A. *Aug 2016 – Dec 2017*
Master of Science, Computer Science *CGPA - 3.6/4.0*
Courses: Big data Analytics, Introduction to Computer Vision, Machine Learning, Probability & Statistics, Visualization, Theory of Databases, Analysis of Algorithms.

National Institute of Technology, Jamshedpur • Jamshedpur, India *Aug 2008 – May 2012*
Bachelor of Technology, Computer Science & Engineering *CGPA - 9.0/10.0*
Courses: Programming and Data Structures, Operating Systems, Computer Networks, Software Engineering, Artificial Intelligence & Neural Networks.

SKILLS

Programming Languages	Java, C, Python, Scala.
Web Technologies	HTML5, CSS, JavaScript, REST, AngularJS, SQL, D3.
Databases	DB2, Oracle Spatial, MySQL, MongoDB, Cassandra.
Tools	Android Studio, Eclipse, IntelliJ, Git, LaTex.

WORK EXPERIENCE

Amazon *May 2017 – Present*
Software Development Engineer Intern *Seattle, WA*
- AWS Builder Tools Team – Implemented Event Notification Service in Amazon's deployment workflow using AWS services such as DynamoDB, SNS and SQS.

British Telecommunications *Nov 2015 – Aug 2016*
Research Analyst *Bangalore, India*
- Next Gen Physical Inventory Planning and e-Recording (PiPer) application – Implemented spatial-editing of telecom inventory in Next Gen PiPer application. The front-end was developed using AngularJS and back-end was developed using Spring and Getafix (BT-library to handle data persistence) for Domain data-type. Also, developed functionality to migrate and convert GIS data from ArcGIS to Oracle Spatial.

Samsung Research Institute *Jun 2012 – Sept 2015*
Senior Software Engineer *Bengaluru, India*
- Auto-Album in Gallery – Designed & implemented k-prototype clustering algorithm to categorically mine and group android gallery images. This is then integrated into data-mining engine of android smartphone. A part of this solution is present in Samsung S7.
- Activity Detection – Analysed different machine learning algorithms to classify sensor data and then, developed android application using Nave Bayes algorithm to train and detect different activities of android smartphone user.
- 3D Reconstruction – Reduced the number of outliers in 3D mesh by optimizing the SFM pipeline, containing algorithms like bundler, CMVS, PMVS, PoissonReconstruction, Vertex attribute transfer. This is then ported and integrated into Android middleware. A paper of the above was accepted in ISPRS Archives.
- Object Recognition – Designed an algorithm for object recognition in an image using priority based Maximally Stable Extremal Regions (Priority MSER) with optimal matching of pixels between query and trained image.

Indian Institute of Technology *May 2011 – Jul 2011*
Intern *Bengaluru, India*
- Affordable Solutions Lab – Implemented and enhanced Proxymity which is a rich multimedia lecturing tool for distance learning, under the mentorship of PADMA SRI, Prof. Deepak B Phatak, Department of Computer Science & Engineering. This project was part of the program National Mission on Education.

PROJECTS

University Ranking Visualization and Analytics *Apr 2017 – May 2017*
- Developed interactive data visualization dashboard to shortlist universities based on a preferred criteria using Javascript, d3.js and other libraries. Used US map, Radar chart, Parallel coordinates, Line chart and Stack bar chart to present the data analysis and visualization. • GitHub Link

Flight Data Analytics *Mar 2017 – Apr 2017*
- Implemented data clustering using random & stratified sampling, data decimation using MDS and PCA and interactive data visualization using scatter plot matrix. • GitHub Link

Web Application Firewall *Oct 2016 – Dec 2016*

- Designed and implemented a Web Application Firewall as an Apache module that "sits" in-front of a web server. The WAF is designed to stop malicious requests from known attacks such as SQL Injection, XSS attacks by validation and from unknown attacks by learning the legitimate traffic. • GitHub Link

Long Tail Recommendations *Oct 2016 – Dec 2016*

- Built recommendation engine to boost recommendations of products in the long tail of Amazon product dataset by Julian McAuley using Apache Spark in Python. Implemented by similarity matching of products lying in head with those in tail of long-tail distribution of Amazon product data. • GitHub Link