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Amit Baran Roy

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EXPERIENCE

Graduate Student Staff   *Summer 2020, CU Boulder*
CSCI-3022 *Intro to Data Science with Probability and Statistics*

Research Assistant, Internet Systems Lab   *Jan 2020–Present, CU Boulder*
- Designed & developed a CMAS spoofer for generating fake SIB12 alerts in 4G LTE networks.
- Designed & implemented a digital signature solution and modified Android OS to verify SIB12 alerts.
- Setup an indoor 4G LTE base station using JUNI small cell eNodeB and open source NextEPC.
- Technology: C/C++, Java, Python, srsLTE, Flask, NextEPC, Android OS, HTML, CSS, Bootstrap

Mcfadyen Digital, Full Stack Developer   *Aug 2016–Jul 2019, Bangalore, India*
- Developed a payment framework using Oracle ATG to integrate country specific third party payment vendors (CyberSource-Global, Sofort/iDeal/Bancontact - Europe, Alipay/Wechat H5 - China, KCP/KakaoPay - Korea) for Louis Vuitton e-commerce. This increased LVMH's revenue by a record breaking 15% upto $59 billion in 2019.
- Redesigned the existing fulfillment pipeline framework and implemented the essential integrations of retail and warehouse management services like sales order creation, customer creation, invoicing, tracking numbers and shipping partners from SAP and Infolog systems for LV e-commerce.
- Implemented multithreaded transactions to synchronize parallel order requests at shopping cart and payment modules.
- Setup Oracle Weblogic application server and deployed end to end ATG Commerce Reference store along with Endeca search/Experience Manager for browsing products.
- Onsite UAT support and interaction with global teams for LV EMEA project Go-Live at Paris, France.
- Optimized existing LV back order architecture to handle large amount of orders stuck in order fulfillment. This resolved manual order processing and reduced overall orders cancellation by upto 20%.
- Developed a custom address search feature using Google Maps API and jQuery for LV Middle East.
- Developed a REST based connector between ATG commerce and Mirakl marketplace platform as a POC that helped company to win the Albertsons Co.s online marketplace project (2018).
- Technology: Java, J2EE, REST/SOAP, client-server, Oracle ATG (alternative Spring MVC), Endeca search (alternative ElasticSearch), Oracle SQL, Junit, Mockito, Jboss, Linux, Html, CSS, Javascript

EDUCATION

M.S. Computer Science, University of Colorado Boulder   *Aug 2019 - Present, Boulder, CO*
- GPA- 3.75/4.00, Data Science Specialization, Graduation- May 2021
- Courses- Machine Learning, Design & Analysis of Algorithms, Neural Networks & Deep Learning, Convex Optimization, Distributed Systems, Datacenter Scale Computing, Professional Masters Project (PMP)

B.E. Electronics & Instrumentation, BMSCE   *Grad. May 2016, Bangalore, India*
- GPA- 9.58/10.00, Gold Medallist
- Courses- Operating Systems, Computer Networks, Embedded Systems, Digital Signal Processing

PROJECTS

LOCI Outlier detection in microscopy image dataset- Outlier determination of local (regional) density of data points for density-based filtering to filter out low density information in microscopy images using statistical LOCI algorithm (C/C++/CUDA) , *Sept-Present 2020*

SOAM Word Embeddings- A word embedding model based on skipgram architecture, *May 2020*

Occupancy Network based 3D Image Reconstruction using Single-Depth View- Generates high resolution 3D images from single 2.5D view using GANs and 3D Convolution NN, *Feb-April 2020*

P2P Resource Pool- P2P abstraction service to share resources like storage, bandwidth. *Feb-Apr 2020*

Paraphrase Detection- A BiMPM model that detects if two sentences are paraphrases, *Sep-Dec 2019*

AquaPredicto — Freshwater quality management system for lakes- Acquires freshwater data of a lake and predicts the probable changes in the water body using Regression and NN,   *2016 | R10-HTC*

Skills   Python, Numpy, Pandas, Scikit Learn, Tensorflow, Java, J2EE, SOAP, REST, C, C++, JavaScript, jQuery, HTML, CSS, Bootstrap, JUnit, MySQL, Redis, Flask, Hadoop, PySpark, Jboss, Git, Linux, Bitbucket, Jenkins, JIRA, GCP, Waterfall, Agile, Machine Learning, NLP, Computer Vision, Cloud Computing

Awards   **Excellence Award**, Mcfadyen Digital   *2017*

Best Student Section- Outstanding Project Award, ISA District 14   *2016*

Talks   Delivered a tech talk on **Blockchain technology** at Mcfadyen Digital.   *2019*

Presented the paper **'A novel concept of Smart Headphones using Active Noise Cancellation and speech recognition'** at IEEE ICSTM Conference, Chennai, India   *2016*