Gautam Singaraju

Engineering Lead, Artificial Intelligence, Product Builder, PhD.

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Oracle Digital Assistant, CA — *Architect and Software Lead*

February 2016 - Present

Oracle Digital Assistant is a product that helps customers build virtual agent assisted conversational interfaces to deflect call traffic resulting in lower total cost of ownership.

Machine Learning and Natural Language Understanding Engineering Lead, since the team's early days, involved in architecture and product development. Wrote critical code for core features: Intent classification (features Sentence Embeddings, ML classification models, Train-Serve architecture), Data Curation Tools and xAI (explainability). Optimized the Machine Learning Models for Fast Inference with Minimal dependency (Apache Spark, Java-C++ JNI bridge). Explored Knowledge Graph Embeddings for improved classification. Software and data compliance and reviewing product user guide for the features built. Involved in computer vision stack.

Mentored the team engineers for success and delivered the features in time. List of publicly filed patents:
https://patents.justia.com/search?q=gautam+singaraju

Oracle Digital Assistant's customer references:
http://www.oracle.com/us/technologies/mobile/mobile-customer-reference-lookbook-3634213.pdf

GE Digital, CA — *Senior Architect*

October 2014 - January 2016

GE Digital Platform provided analytics solutions across GE. As an architect working for Power & Water and Oil & Gas teams, Gautam designed systems for ingesting, analyze time-series data for assets. The analytics identify generator failure detection from sensor data.

Electronic Arts, CA— *Technical Lead*

March 2012 - October 2014

Electronic Arts Data Platform was formed to provide an unified analytics platform across multiple Video Game Studios for business analytics for large scale of gaming data.

SKILLS

Product Engineering Lead

Artificial Intelligence

Machine Learning

Cloud and Distributed Architecture

Business Analytics

SOFTWARE

Java, Apache Spark ML, Kafka, TensorFlow, Python, Kubernetes, Big Data.

EDUCATION

UNC Charlotte, *Ph.D.*

2003 - 2009

Dissertation: Towards Sender Accountability on Email Infrastructure using Sender Identity and Reputation Management.

UNC Charlotte, *MS*

2001 - 2003

Thesis: Testbed for evaluation of intrusion detection systems.

JNTU, *Bachelors*

2001 - 2003

Project: Signature Analysis Using Neural Networks.

As the first engineer to join the team, Gautam helped build the platform and analytics to serve 100 of games including multi-million dollar games (FIFA, NFL, NHL, Battlefield); running into PetaByte scales. Gautam worked in a team lead capacity.

Ask.com, CA— *Senior Engineer*

June 2010 - March 2012

Ask Data Team provided analytics for Ask Search engine.

Built analytics for identifying the top queries at the search properties across different channels and countries, Search Engine Monetization.

Built analytics to report top queries given a keyword using HBase.

UNC Charlotte, NC— *Postdoctoral Researcher*

August 2009 - May 2010

Assessing Botnet Population Dynamics and Relationships. Profiling Malicious Domain Behavior From Top-Level Domain Data.

Technical Staff Intern, CA— *Postdoctoral Researcher*

May 2007 - August 2007

Performance analysis of iSCSI on VMware ESX Servers. Worked on Disaster Recovery performance scenarios with VMware ESX server.

UNC Charlotte, NC – *Graduate Assistant*

Jan 2002 - May 2009

Research: Email Security, Data Synchronization techniques, Applied Cryptography, Intrusion Detection Networks, Honeypots.

Taught graduate level courses on Information Security.

Selected Publications

Entropy-Based Measurement of IP Address Inflation in the Waledac Botnet, FloCon 2011.

Concord: A Secure Mobile Data Authorization Framework for Regulatory Compliance, USENIX LISANovember 1, 2008.

Tracking Email Reputation for Authenticated Sender Identities, CEAS, April 1, 2008.

RepuScore: Collaborative Reputation Management Framework for Email Infrastructure, USENIX LISA 2007.

A Testbed for Quantitative Assessment of Intrusion Detection Systems Using Fuzzy Logic, IWIA, January 1, 2004.

Selected Blog

[Introduction to Embedding in Natural Language Processing](#)

[Caffe Deep Learning: Dog Breed Alexnet Model](#)

[Object Classification using Deep Learning and Raspberry PI](#)

Volunteer

System Administration for Non-profit organizations

Researcher with George Mason University
1. Botnet population dynamics
2. Profiling malicious domain names from top level domain registration data.

Program Committee Member for International Conference on Operations Research and Enterprise Systems 2017