Dhanush Narayan Kamath

Email : dhanushnkamath@gmail.com LinkedIn
Mobile : +91-9497056659 GitHub
Portfolio: dhanushkamath.github.io Medium

EDUCATION

National Institute of Technology, Surat Surat, India
*Bachelor of Technology in Electrical Engineering; **GPA**: 8.67/10; **Rank**: 19/107* *Aug. 2015 – May 2019*

- **Relevant courses**: Data Science, Information Security, Fundamentals of Computer Programming, Computer Applications for Electrical Engineering, Microprocessor & Microcontroller, Network & Systems, Embedded System
- **Capstone Project**: *Balancing an Inverted Pendulum in a Horizontal Plane using LQR and Energy-Based Swing-Up Control.* [Grade: 10.0/10.0]
- **Seminar**: *Convolutional Neural Networks in Machine Vision.* [Grade: 10.0/10.0]
- **Activities**: Executive Member of ACM NIT-Surat, Co-head (Design) of Electrical Engineering Society.

EXPERIENCE

HSBC Pune, India
Senior Software Engineer *August 2021 - Present*

- **Data Science Platform**: Developing an internal data science platform to provide Machine Learning as a Service for seamless training, testing and deployment of models for a plethora of use cases. The platform equips 25 teams with the tools to easily apply machine learning to over 100TB of payments data.
- **Machine Learning**: Leveraging supervised and unsupervised algorithms for use cases such as fraud detection, customer retention and process optimization. Currently working on automatic case creation using sentence to vector encoding for optimizing turnaround time which would greatly reduce customer support efforts.
- **Distributed Computing**: Building distributed data processing workflows for batch and stream jobs to efficiently manage large amounts of payments data.
- Delivered technical talks on Microservice Architecture, Blockchain, Object Oriented Programming with Python and Introduction to Machine Learning.

Software Engineer *July 2019 - August 2021*

- **Microservices**: Developed highly scalable RESTful web services to securely manage and retrieve banking information using the Microservices architecture. These Microservices have facilitated flagship projects such as PayMe (Hong Kong), Open Banking APIs (EU) and INTERAC e-Transfer (Canada). Contributed extensively to our internal Microservices framework in the areas of asynchronous communication and fault-tolerance.
- **Cloud Migration**: Migrated existing applications from on-premise data centers to containerized applications running on AWS cloud platform.
- **Automation and Utilities**: Continuously enhanced and developed tools to automate and improve API development, security patterns and monitoring which has greatly reduced support and maintenance efforts.

Indian Institute of Technology, Kharagpur Kharagpur, India
Summer Research Intern *May 2018 - July 2018*

- **Blockchain and Cloud**: Analyzed the problem of ensuring service availability, trust and profitability in a service-oriented distributed system using Blockchain and Cloud Computing.
- **Sensor-Cloud**: Designed and implemented a decentralised Blockchain based architecture for enforcing transparent transactions and fraud prevention in Sensor-Cloud.
- Co-authored the paper "Consortium Blockchain-based Federated Sensor-Cloud for Vehicular IoT-Based Services", submitted to the *IEEE Transactions on Vehicular Technology* [submitted on 10th Aug, 2021; under review.]

Admatic Solutions Chennai, India
Machine Learning Intern *May 2017 - Aug. 2017*

- **Deep Learning**: Modelled and trained Convolutional Neural Networks to perform object, hand writing and emotion recognition for an education technology product.
- **Computer Vision**: Developed vision-based components for a robotic arm that plays Tic-Tac-Toe.

PROJECTS

- **Burgernaut**: A containerized, distributed and fault-tolerant food ordering system developed with a message-based architecture. [article; code]
- **Moodify**: An intelligent web-app based music player that recognizes facial expressions to generate a suitable playlist using machine learning. Won second place at the ACM Month-of-Code hackathon. [article; code]
- **Face Generator**: Modelled and trained a Variational Autoencoder to generate new human faces. Published a tutorial documenting the code and techniques on Towards Data Science. [article; code]
- **MandoPay**: A voice controlled personal finances application built with the MEAN stack that provides interactive visual dashboards and a chatbot for tracking spends and investments. [code]
- **Inverted Pendulum System**: Developed an inverted pendulum system as part of my undergraduate capstone project. Programmed an LQR control algorithm for swinging up and balancing the system. Also presented the project at a short term training program on Industrial Automation organized by my advisor, Prof. Janak J. Patel.

CERTIFICATIONS AND COURSES

- **AWS Certified Solutions Architect - Associate** [View Certificate]
  Exam code: SAA-C02 *Nov. 2020 - Nov. 2023*

- **Algorithms Specialization by Stanford Online** [View Certificate]
  Course list:
  - Divide and Conquer, Sorting and Searching and Randomized Algorithms.
  - Graph Search, Shortest Paths and Data Structures.
  - Greedy Algorithms, Minimum Spanning Trees and Dynamic Programming.
  - Shortest Paths Revisited, NP-Complete Problems and What To Do About Them.

- **HSBC Global Technology Graduate Program**
  Course list: *July 2019 - September 2019*
  - Data Analytics with Python
  - Cloud Computing with AWS and GCP
  - API Development and Backend Engineering with Java Spring
  - Cyber Security

PROGRAMMING SKILLS

- **Languages**: Javascript, Python, Java, SQL   **Technologies**: AWS, Tensorflow, Node.js, Angular, MongoDB

ACHIEVEMENTS

- **HSBC Future Leadership Program**: Selected among 600 applicants. A program that mentors successful applicants with the potential to be future leaders. Received the opportunity to interact with the CEO and CIO in London, UK.
- **ACM Month-of-Code Hackathon**: Second place for building Moodify - an intelligent emotion-based music player.
- **NIT Conclave**: Second place for building E-Health - an emergency medical service application. NIT Conclave is a national level conference for discussing and building solutions to issues of national importance.
- **Big Mart Sales Prediction Challenge**: Ranked 94/32000 in a Machine Learning challenge to predict future sales.
- **Vision Robotics**: Third place in the zonal round for building a path follower robot.
- **AISSCE**: Top 1% in the country for the All India Senior School Certificate Examination. Awarded A+ in all subjects.