

# VIRAJ SONAJE

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## EDUCATION

### Arizona State University

Aug 2021 - May 2023

Master of Science (MS) in Computer Science, GPA: 3.83/4.00

### Pune Institute of Computer Technology (PICT), India

Jul 2015 - Jun 2019

Bachelor of Engineering (BE) in Electronics and Telecommunications, CGPA: 8.93/10.00

## SKILLS

- **Programming Languages:** Java, Python, C#, C++, JavaScript, TypeScript, Bash
- **Web Tech. :** Spring Boot, Django, Flask, React.js, Node.js, Angular, Thymeleaf, Hibernate, Bootstrap, Material UI, jQuery, HTML, CSS, Rest API, .NET
- **Database and DevOps:** MS SQL, MySQL, H2, PostgreSQL, MongoDB, DynamoDB, AWS (EC2, SQS, S3, Lambda), Jenkins, Git.
- **Machine Learning/Data Science:** TensorFlow, Scikit-learn, Keras, OpenCV, Pandas, NumPy, Matplotlib, NLTK, PyTorch

## PROFESSIONAL EXPERIENCE

### Integrated Technology Corporation

July 2023 - Present

Software Engineer

- Spearheaded the development of an advanced software version for the probe card analyzer, accommodating over 15 cutting-edge features & complex wafer designs for an enhanced user experience.
- Enhanced desktop application functionality by implementing backward compatibility, facilitating seamless import and export of motherboard and probe card files, and ensuring a smooth transition for over 500 users across the US and Europe.
- Optimized file import speed significantly, utilizing SQL bulk insert operation, reducing import time from over 5 minutes to under 20 seconds.
- Developed and implemented a Depth-First Search (DFS) algorithm to identify and map all connected probes to a specific probe via components, facilitating efficient connectivity analysis.
- Led the development of an internal website, leveraging Flask and Bootstrap, centralizing access to vital documents, applications, and resources, and enhancing organizational efficiency and accessibility.
- Technology Stack: C#, .NET, OpenCV, MS SQL, Flask, Bootstrap

### DHL Global Forwarding

May 2022 - Apr 2023

Software Engineer Intern

- Enhanced an invoice audit web application to provide better insights to business users regarding invoice errors.
- Engineered front-end and back-end for invoice search on 20+ attributes with daily 200,000+ new invoice updates.
- Orchestrated requirements gathering, implementation, and presentation of developed features to stakeholders and business users, while independently leading development efforts.
- Led a team of interns to develop mobile forms for warehouse workers, improving data management and reducing paper trail.
- Technology Stack: Spring Boot, Java, Angular, MS SQL

### HSBC Software Development India

Jul 2019 - Jun 2021

Software Engineer

- Pioneered an end-to-end web application to manage BYOD requests, incorporating multi-level approvals, and integrating with Microsoft Intune for device whitelisting, resulting in improved security and streamlined device management processes.
- Designed and developed a web application automating software release requests impacting 300,000+ users.
- Actively participated in the agile development process, encompassing daily stand-ups, sprint planning, and retrospectives.
- Reengineered the legacy internal search engine web application and upgraded its indexing framework (SIFIN - Search Indexing Framework Internal) accessed by several tier-1 applications.
- Initiated and obtained approval for a project to extract keywords using NLP techniques to cluster IT incidents and identify underlying application issues. Created new classification items for SharePoint and SIFIN based on clustering results.
- Proposed and executed the implementation of a CI/CD pipeline for the SharePoint environment, enhancing the deployment.
- Technology Stack: Spring Boot, Java, Django, Python, Angular, jQuery, Thymeleaf, MS SQL, NLTK, Scikit-Learn, Jenkins, Git

## ADDITIONAL EXPERIENCE

### Image Captioning Service | Python, Keras, TensorFlow, PyTorch, Heroku

Dec 2022

- Orchestrated and implemented an image captioning system using three approaches: CNN-LSTM, attention models, and a transformer, based on the paper "All You Need is Attention". Trained on the Flickr8k dataset.
- Evaluated model performance using metrics such as Bleu scores, METEOR, CIDEr, Rouge-L, and Spice, with the transformer model outperforming others and generating coherent captions.
- Deployed the models on Heroku, providing an accessible user interface for testing the image captioning system.

### AWS Auto Scalable Image Recognition service | Flask, Python, Boto3, AWS (EC2, S3, SQS, Lambda, DynamoDB)

Mar 2022

- Engineered an elastic application scaling out on-demand cost-effectively using IaaS and PaaS Cloud.
- Attained a benchmark of successfully processing 100 concurrent requests in 60 sec and creating up to 20 instances on the fly.
- Upgraded the application to process real-time video using AWS lambda and an edge device, storing results in DynamoDB.
- Increased system efficiency, achieving 600 invocations in 300 seconds with an 87% accuracy.