

Ninad Sathaye

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CORE COMPETENCIES

Strategic Product & Tech Enablement

Stakeholder Management

Digital Transformations

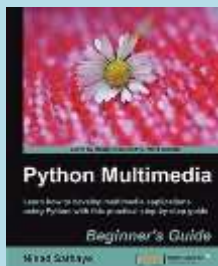
AI and Data Science Roadmaps

Cloud Infrastructure Cost Estimation

Mentoring and Knowledge Sharing

Team Building & Leadership

AUTHORED BOOKS



SKILLS

Programming: Python, C++, Shell, Spring Boot

Data Science/LLM: pandas, Huggingface transformers, OpenAI API, LangChain, VectorDB (Faiss, Chroma), AWS Sagemaker, Azure Cognitive Services, Azure ML, Synapse, PyTorch, GPT4, using Flan-T5 LLMs from HuggingFace, GuardRails, RAG

Containers & Cloud: Kubernetes, Docker, AWS Lambda, Azure Cloud (APIM, FrontDoor, App Service, Function Apps), Microservices, Mlflow

Build Management, DevOps, Jenkins, Artifactory, Azure DevOps

IoT: Watson IoT, MQTT, Kafka, LoRa

EDUCATION

MS (Mechanical Engineering)

Kansas State University, USA, 2003
GPA: 3.88/4.0

BE (Mechanical Engineering)

University of Pune, Pune, 2000

Deep Learning Nanodegree

Udacity Certification, 2020

PROFILE SUMMARY

- Accomplished technical leader with 19+ years of progressive experience in engineering software development, project leadership, and technology research.
- Exhibited expertise as an innovator, driving the development of AI projects ranging from pronunciation assessment, sentiment analysis, speech-to-text to Generative AI.
- Demonstrated strong leadership in guiding software engineering and data science teams to deploy AI based solutions at scale (Azure cloud ecosystem, Databricks, MLOps practice, Azure ML)
- Showcased skills in advancing digital transformations that enhance data privacy and mitigate PHI risks.
- Prolific inventor with over 40 granted / pending patents in AI/ML, IoT and healthcare domains.
- Published author of two books on the Python programming language

WORK EXPERIENCE

Optum (United Health Group), Bangalore

Dec'18-Sep'23

Senior Principal Engineer | Director of Research

- Directed teams in implementing advanced transformer-based models for patent portfolio taxonomy to enhance portfolio management. (BERT, TF-IDF, fuzzy matching, Apache tika, Azure OCR)
- Provided engineering oversight to company's disease platform modernization, leading critical discussions on architecture approvals, cloud migration strategy, and ML Pipelines. (Azure Cloud ecosystem)
- Conceptualized and led the development of a generative AI based tool (GPT3.5, LangChain, ChromaDB) for automated content summarization and generation, streamlining the creation of invention drafts, reducing manual effort, and enhancing productivity.
- Drove technical aspects of a critical digital transformation initiative, enhancing data privacy. Championed technical architecture design, influenced build vs buy decisions in procurement of strategic technology tools.
- Spearheaded implementation of employee experience bots in MS Teams environment. Worked with cross-functional teams to define chatbot functionalities, enhancing user experience through quick inquiry resolution.
- Championed various AI-Driven process optimizations: Utilized Azure cognitive services for automated auditing of customer-service calls (2021-22); Employed an ARIMA model to predict retrospective drug price changes (2019)

Academic Research Collaborations

- Provided technical mentorship to Carnegie Mellon University graduate data science students to develop an ensemble model for predicting personalized healthcare utilization risk.

Mentoring and Training

- Mentored a group of new joiners, to develop a fitness tracking app 'Fitness Guru'. Incorporated an innovative composite model that combined deep learning-based image detection and mobile phone sensor data to accurately detect posture. Awarded first place in India organization-wide project competition.
- Mentored and trained numerous aspiring inventors, resulting in several individuals becoming highly successful inventors in subsequent years.

SELECT PATENTS

Sentiment Progression Analysis;
US11256874; 2022

Cognitive Mobile Wallet Management;
US11030616; 2021

Resolving Application Multitasking
Degradation; US10223228B2; 2019

Health Monitoring; US10216909B2; 2019

System Managing Mobile Sensors for
Continuous Monitoring of Pipe Networks;
US9841134B2; 2017

Data Processing; US9549044B1; 2017

AWARDS

Outstanding Technical Achievement
Award (OTAA), for integration of IBM Q
Experience with Data Science Experience
platform; 2017; IBM India

Eminence and Excellence Award, for
creation of production IBM Q experience
simulator service leveraging container-
based IBM Cloud Private cluster; 2017;
IBM India

SELECT WHITE PAPERS

Connected cars for connected healthcare,
Publisher: Nasscom (2022)

Tech for better healthcare: The role of AR
and VR, PC Quest Magazine (2020)

ACCREDITATIONS



PREVIOUS EXPERIENCE

IBM India, Bangalore

Jan’09 - Dec’18

Advisory Research Engineer | Technical Strategy CTO Office

Semiconductor Device Simulator Research & Development

- Enhanced proprietary semiconductor device simulation software used for predicting 45nm, 32nm, 22nm, 14nm nodes) by implementing new physics-based models and conducting large-scale upgrades, leading to more accurate prediction of transistor performance. Co-authored IEEE journal and conference papers on this work.

Containerized Deployment of Quantum Simulator

- Containerized applications for quantum computer offering and deployed in a high-availability Kubernetes cluster, effectively serving over 40k global users.

CI for Deep Learning Product Offering on Power AI platform

- Proposed a continuous integration strategy for PowerAI components. Mentored a developer team in the implementation of pipeline as a code using Jenkins.

IoT Smart Water Project (Collaborator: IISc, Bangalore)

- Architected an end-to-end IoT solution using Watson IoT platform and IBM Cloud, enabling predictive insights into piped water leakage problems, and facilitating bi-directional communication with edge devices.

Nanorex Inc, Michigan, USA

May’04- Nov’08

Systems Programmer

Significant Accomplishments:

- Developed NanoEngineer-1, an open-source 3D-CAD software for modeling and visualization of molecular devices.
- Implemented APIs for creating nano-structures, such as nanotubes and DNA.
- Re-factored and maintained legacy code, wrote profiling code for functions.

PART-TIME EXPERIENCE

Michigan State University

2003 - 2004

Teaching Assistant | PhD Candidate

- Performed molecular dynamic simulations for determination of nano-scale energy transport at the metal-polymer interface.

Kansas State University

2001 - 2003

Research Assistant

- Optimized a thermal system to increase the power output of a natural gas compression engine.