

# Nirav Shenoy

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## Summary

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A software developer pursuing a Master's degree in Informatik with a focus in Deep Learning. With over 3 years of experience in designing and implementing features for large products, I am confident in my ability to drive innovative solutions. I am passionate about applying my skills to real-world problems specifically in the area of Deep Learning.

## Education

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### Universität des Saarlandes

Saarbrücken, Germany

M.S. COMPUTER SCIENCE - GPA: 1.9 / 4.0 (1.0 BEING THE HIGHEST)

Oct '21 - Present

- **Thesis** - Lottery Ticket Hypothesis
- **Coursework** - Computer Vision, Neural Networks, Reinforcement Learning, NLP, Image Processing, Quantum AI
- **Seminars** - Pruning DNNs using the Lottery Ticket Hypothesis, Ethics in AI

### Manipal Institute of Technology

Manipal, India

B.TECH COMPUTER SCIENCE AND ENGINEERING

Aug '14 - Jul '18

- **Coursework** - Algorithms, Data Structures, Networks, Databases, Software Engineering, Information Retrieval, Data Mining

## Work Experience

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### InspiredResume

Remote

LEAD SOFTWARE ENGINEER

Mar '23 - Present

- Lead Engineer for a Recruiting-based start-up
- Using LLMs to help candidates with Resume Design, job-specific Cover Letters and Resume Assessment
- Designing the overall product and engineering the prompts to cover edge cases and provide accurate responses

### SAP Labs

Bangalore, India

SOFTWARE DEVELOPER

Aug '18 - Sep '21 (3 Years)

- Designed and implemented features for **SAP SuccessFactors**: a cloud-based Human Capital Management Solution
- Led to effort to decouple the Agency feature from a monolith into a microservice architecture
- Reduced customer defects and security vulnerabilities for Agency by 50% over 6 months to improve customer experience

### SAP Labs

Bangalore, India

MACHINE LEARNING INTERN

Jan '18 - Jul '18 (6 Months)

- Pattern mining on data of a large airline to optimize refueling planes at airports worldwide
- Developed a PoC for a Speech-to-Text API with 80% accuracy for logging flight refuelling tickets
- Built a predictive model to increase team's mobile application usage at large airports

### Avagmah

Bangalore, India

SOFTWARE DEVELOPMENT INTERN

Jun '16 - Jul '16 (2 Months)

- Wrote complex SQL queries to generate reports on the Analytics Dashboard
- Redesigned Home page using PHP, HTML and CSS

## Projects

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\*Project code can be found on my GitHub profile

### AffordanceNet

COMPUTER VISION

- Instance Segmentation using the SegFormer architecture to detect the affordances of different parts of objects in an image
- The output of the SegFormer encoder is passed to 2 CNN decoders. One decoder detects the bounding boxes of the object and the other performs pixel-wise affordance detection of the objects detected trained with a joint loss function.

### GridWorld

REINFORCEMENT LEARNING

- Optimizing the GridWorld problem where an agent navigates a grid-like environment, aiming to reach a goal while avoiding obstacles, with the goal of maximizing its cumulative reward.
- Applying Proximal Policy Optimization (PPO) with Behavioral Cloning to the training data with the goal of learning the optimal policy to transform the pre-grid to the post-grid

## Semi-Supervised Learning

### COMPUTER VISION

- Showing the scalability of deep neural networks in the absence of large datasets of labeled data
- Implementation of Semi-Supervised Learning algorithms - Pseudo-label (Dong-Hyun Lee et al.), Virtual Adversarial Training (Takeru Miyato et al.), an generalisation of Fixmatch (Kihyuk Sohn et al.)

## Recruiting Platform

### SOFTWARE ENGINEERING

- Developed the complete stack for a Recruiting Platform based on an MVC Architecture to manage recruiting pipelines
- Includes role-based functionalities like Job Posting and Hiring Pipeline for Recruiters; Job Applications for Candidates

## Speech to Text API

### MACHINE LEARNING

- Flask framework to convert speech to text using Hidden Markov Models
- Training audio data with fine-tuning to detect multiple accents

## Skills

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**Programming Languages** Python, Java, C, C++

**ML Frameworks** Pytorch (basic experience in Tensorflow, Keras)

**Web Development** Javascript, HTML, CSS, PHP

**Frameworks and Tools** Git, Linux, MySQL, Docker, Kubernetes, Springboot

**Others** Deep Learning, Algorithms and Data Structures

**Languages** English (high proficiency), German (A1 level)

## Achievements

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- 2019 **SAP Labs High Achiever**, Awarded by VP of Recruiting for leading the launch of the SAP SuccessFactors' first end-to-end microservice
- 2017 **Rank 203**, HackerRank IndiaHacks among 25000+ participants
- 2014 **Rank 1**, School Topper CBSE Grade 12 Board Exams among 65 students with 95.8%
- 2014 **INSPIRE Scholarship for Higher Education (SHE)**, Govt. of India for being in the top 1% of the country

## Extracurricular Activity

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### SAP Labs, Football Team

#### MEMBER

- Among the best corporate football teams in Bangalore winning several tournaments

*Bangalore, India*

*Jan '19 - Sep '21*

### IEEE, Manipal Chapter

#### MEMBER

- Part of the Management Committee
- Organized technical workshops and conferences

*Manipal, India*

*Aug '15 - Nov '17*

### MIT Manipal, Football Team

#### MEMBER

- Represented the college in football
- Captained football club in a semi-professional league

*Manipal, India*

*Jan '16 - Nov '17*