# Somnath Sharma

B.Tech Undergrad

Deep Learning & Computer Vision enthusiast with excellent problem-solving skills, dedication & ability to learn quickly. Passionate about programming & FOSS.


somnathsharmaji05@gmail.com

+91 94255 76540

India

linkedin.com/in/s0mnaths

github.com/s0mnaths


## SKILLS

Python | PyTorch | NumPy | OpenCV | Pandas | Git | Jupyter | ReactJs | Django

## LANGUAGES

English
*Full Professional Proficiency*

Hindi
*Native or Bilingual Proficiency*

## INTERESTS

Artificial Intelligence | Chess | Football

## EDUCATION

### Bachelors of Technology in Electronics & Computer Engineering
Amrita Vishwa Vidyapeetham, Amritapuri

*2020 - 2024 (Expected)* *Current CGPA - 9.07*

*Some courses taken (till date)*

- Matrices & Calculus
- Probability Theory & Random Processes
- Data Structures and Algorithms
- Digital Signal Processing

### Class XII (CBSE AISSCE)
Delhi Public School, Bhilai

*04/2019 - 04/2020* *Score - 90.4%*

## PERSONAL PROJECTS

### Brain Tumor Segmentation
- **Semantic Segmentation** of tumor from *Brain MRI images* using PyTorch
- Model architecture used is **UNET**, trained on Kaggle LGG Segmentation Dataset
- Loss criterion used was **DICE loss + BCE Loss**
- Model has been converted to **ONNX** format and deployed using Gradio & hosted on Heroku.

### Guess the Birdie
- Neural network trained in PyTorch to classify images of 300+ bird species
- Model architecture similar to Resnet9 but **compact and faster**. Few convolutional layers with residual layers in between them, along with batch normalization are used
- Converted to ONNX format for easy deployment using Heroku
- Front-end using **Streamlit**

### Music Party
- Web app to **collaboratively play music** in parties.
- Built using **React**, **Django** & Django-REST framework. Utilizes the Spotify API
- Host can create “Rooms” and let others join and collectively decide the music

### Head-Pose Estimation using Facial Landmarks (On-going)
- Desktop app to estimate the head-pose of subject by **calculating Roll** , **Pitch** & **Yaw** of head
- Detect **68 key facial points** using model with architecture similar to Resnet18
- Use these facial points as inputs to predict Roll, Pitch & Yaw using simple ANN

## ORGANIZATIONS

### amFOSS
*Mentor & Team-Member*

## ACHIEVEMENTS

### HackMIT (09/2021)
*Selected for the hackathon HackMIT 2021*

### International English Olympiad (2017)
*All India Rank - 57, State Rank - 3*