

Atharva Nimbalkar

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IIIT Nagpur

Computer Science and Engineering
3rd Year Undergraduate
CGPA: 8.66/10.0

INTERESTS

Algorithms, Deep Learning, Statistics, 3d Modelling, DirectX programming

- Working on application of reinforcement learning to create agents that can efficiently interact with an environment. Created small scale projects such as bots that achieved super-human level performance in simple games.
- Designing 3D models using Blender.
- Active and regular participation in competitive coding activities. Including but not limited to online platforms like CodeForces, CodeChef etc. Using C++ or Python. Well versed with data structures, algorithms, number theory and their application.
- Experienced with Shaders using DirectX 11 and Win32.

INTERNSHIPS

1. **Blockchain research intern at MIR Labs, Gwalior.**
May2019 – July 2019

Publications

[1] **On the Role of Blockchain Technology in Internet of Things**

R. S. Bhadoria, Atharva Nimbalkar, Neetesh Saxena

Contributed as a book chapter in “Advanced Applications of Blockchain Technology” by Springer.

https://doi.org/10.1007/978-981-13-8775-3_6

[2] **The impact of Smart-Grid on the society and how Blockchain facilitates energy trading.**

R. S. Bhadoria, Atharva Nimbalkar

To be published as an article in IEEE Magazine.

(In Press)

Project Details

- **Implemented a Blockchain based peer to peer energy trading system for a smartgrid.**
Designed a system to allow houses connected in a microgrid to sell their excess solar energy. The project was Pitched at Startup Weekend, Pune 2019.

- **AI-2048**
AI-2048 is my own version of the popular android game titled '2048'. It was built from scratch using PyGame library in Python. A Deep Q Network was implemented and trained using reinforcement learning to play this game efficiently. Source can be found on my GitHub
- **Built A Gesture Controlled Quadcopter using arduino and OpenCV.**
It consists of a Arduino microcontroller on the the Quadcopter frame that controls the 4 propellers. The arduino interacts with the computer through 'Firmata' protocol over Bluetooth. The computer also runs OpenCV to record simple hand gestures that control basic movement of the quadcopter.
- **Repostinator**
Repostinator is program built using Python and Shell scripts that automates posting content on Instagram. A web scraper pulls images from Reddit, and they are uploaded to Instagram with automatically generated captions. Can be used for automated social media marketing.
- **Tumor Classification system for medical diagnosis using Machine Learning.**
Implemented a simple machine learning based model that used K-Nearest Neighbours algorithm to classify a tumor as malignant or benign. The input database was taken from UCI Machine Learning Repository.
- **Used p-threads to parallelize standard sequential algorithms.**
Using functionalities provided by the Linux operating system such as pthreads and semaphore library for GCC, some standard sequential algorithms like sorting and fibonacci series were parallelized.
- **Edge avoiding robot using Arduino.**
Using infrared transmitters and receivers(photo diodes), this robot is capable of scanning it's path for obstacles and edges as it moves forward. Programmed and implemented using an Arduino.
- **Initiated a Start-Up based on designing and manufacturing custom merchandise.**
TrueColors was a customized merchandise brand that sold uniquely designed posters, laptop skins and T-shirts. It was first started inside the college campus and later expanded to some parts of Nagpur city.

TECHNICAL SKILLS

Programming languages: Proficient in C++, Python, Arduino, DirectX and WinAPI.
Experienced with Java, Android.

Libraries: Tensorflow 2.1, Pandas, NumPy, Matplotlib (Python)
STL (C++)

Operating Systems: Linux, Windows

Software Skills: Kali-Linux, shell-scripts, Adobe Photoshop, Adobe After Effects, Adobe Premiere