Shubham **Dokania**

Software Developer · Machine Intelligence Enthusiast

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Education

Delhi Technological University(Formerely DCE) — *New Delhi, India*

B.Tech. in Mathematics and Computing Engineering — *Aug. 2013 - PRESENT*

North Delhi Public School — *New Delhi, India*

AISSCE (All India Senior School Certificate Examination) — *Apr. 2011- May. 2013*

Skills

Programming	Python, C++, C, Java, MySQL, JavaScript, Shell Scripting, Arduino, MATLAB, LaTeX, HTML
Frameworks & Libraries	Django, Flask, Theano, OpenCV, Keras, TensorFlow, PyBrain, Numpy, Scipy, Play Framework, OpenGL
Familiar	C#, Node.js, Android, MongoDB, PostgreSQL, Unity3D, Lua, Apache Spark, Ruby

Experience

Evolutionary Computing and Research Lab, DTU — *New Delhi, India*

Undergraduate Researcher — *Sept. 2015 - PRESENT*

- Studied various evolutionary optimization algorithms and their implementation on multi-dimensional objective functions.
- Developed a robust modification of an algorithms for global optimizations in multi-dimensional search space.

Greplr — *New Delhi, India*

Co-Founder & Full Stack Developer — *May. 2015 - PRESENT*

- Developed a hyper-local discovery platform and service aggregation application with a scalable architecture.
- Exposed REST APIs to support android application using Flask(Python Framework) and Parse for Database backend and analytics.

Omnipresent Robot Tech. — *New Delhi, India*

Software Engineering Intern — *July. 2015 - Aug. 2015*

- Built a cross-platform application called SpeedObotiX using Qt Framework for Python.
- Application enables students to build robots without writing code and graphical logic controls.

Research

Modification to an evolutionary optimization algorithm (Under Review) — *Research Publication*

Undergraduate Research Student — *Oct. 2015 - Mar. 2016*

- Modified an evolutionary optimization algorithm for better accuracy and performance for various objective funtions.
- Achieved promising results on test functions as well as multi-dimensional application problems.
- Paper currently under review at prestigious IEEE Transaction.

Projects

Tracking using multi-camera environment — *New Delhi, India*

Machine Learning, Computer Vision, Database — *Mar. 2016*

- Designed a tracking interface using multiple cameras for face detection and recognition from database to know trajectory followed by a person.
- Built for surveillance tasks at public places. Prototype was presented at Code for India hackathon, at Rashtrapati Bhawan, India

RNN and LSTM based Text Generation — *New Delhi, India*

Machine Learning, Natural Language — *Nov. 2015 - Dec. 2015*

- Built Neural Network model based on RNNs and LSTMs to understand a given text corpus and form a probabilistic language model.
- Written in Python using Keras and Theano Libraries. Deployed on a VPS with logging to monitor progress.

Food Requirement Simulation and Prediction

New Delhi, India

Data Science, Server

Oct. 2015

- Developed a web dashboard to display data and predictions for food consumption and wastage for the NGO Akshaya Patra.
- Exposed APIs for data and Predictions using Django. The prototype won the Grand Prize award at CodeForIndia 2015 Hackathon.

Genetic Evolution in Game Playing Bots

New Delhi, India

Evolutionary Algorithms, Game Theory, Neural Networks

Sept. 2015 - Oct. 2015

- Created a Genetic Evolution based Tic-Tac-Toe playing bot which evolves on the principle of natural selection.
- Built Using Python and Numpy library. Learned about evolutionary algorithms and role of genetic programming in optimizations.

Autonomous Robot Navigation System Using Kinect

New Delhi, India

Computer Vision, Embedded Systems

Mar. 2015 - May 2015

- Built an autonomous robot and designed it's obstacle avoidance and navigation system using OpenCV Python library.
- Analyzed performance on various development boards (Raspberry Pi, BeagleBone Black etc.) by running and optimizing the scripts.
- Used Depth maps and pixel intensity calibrations to compute distance of multiple obstacles and calculate a feasible path.

Honors & Awards

Oct. 2015	**Grand Prize Winner**, Code For India Hackathon	*New Delhi, India*
July 2015	**Grand Prize Winner**, HackIndia 2015	*Bangalore, India*
Apr. 2015	**1st in Track**, PolicyHacks by EPoD, Harvard University	*New Delhi, India*
Mar. 2015	**3rd Position**, </geekfest> 2015 by 91SpringBoards and IBM Bluemix	*New Delhi, India*
Mar. 2015	**Special Mention**, Byldathon at IIIT Delhi	*New Delhi, India*
Oct. 2013	**Best Student Award**, The Times of India(TOI)	*New Delhi, India*
Aug. 2010	**2nd in State**, National Science Talent Search Examination	*New Delhi, India*