Shubham **Dokania**

SOFTWARE DEVELOPER · DATA SCIENTIST

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Education

Delhi Technological University(Formerely DCE)	*New Delhi, India*
B.TECH. IN MATHEMATICS AND COMPUTING ENGINEERING	*Aug. 2013 - Jun. 2017*

North Delhi Public School	*New Delhi, India*
AISSCE (ALL INDIA SENIOR SCHOOL CERTIFICATE EXAMINATION)	*Apr. 2011- May. 2013*

Skills

Programming	Python, C++, C, JavaScript, MySQL, MATLAB, LaTeX, HTML5
Frameworks & Libraries	Django, Flask, Node.js, Theano, OpenCV, Keras, TensorFlow, Numpy
Familiar	Caffe, Chainer, Lasagne, Android, MongoDB, Unity3D, Lua, Apache Spark

Experience

CVIT IIIT-H	*Hyderabad, India*
RESEARCH INTERN	*Aug. 2017 - PRESENT*

- Focus on applications of Deep Learning in computer vision (supervised by Dr. C. V. Jawahar).
- Working on applications of Reinforcement Learning on vision and game playing.

Coding Blocks	*New Delhi, India*
INSTRUCTOR	*June 2016 - Aug. 2017*

- Teaching and Mentoring students about programming and development practices.
- Teaching Machine Learning, Web Development and frameworks such as Flask, Django, Node.js.

CoSys Lab, IIIT Delhi	*New Delhi, India*
SUMMER RESEARCH INTERN	*May 2017 - Aug. 2017*

- Application of Machine Learning on Drugs and Side effect information, Molecular level food data analysis etc.
- Implementation of data science pipelines, and research under supervision of Dr. Ganesh Bagler.

Codementor	*New Delhi, India*
MENTOR	*Dec. 2015 - Present*

- Expert Mentor on Codementor for help in Python, Machine Learning, Django, and general programming.
- Teaching people around the world and helping the developer community to grow.

Greplr	*New Delhi, India*
CO-FOUNDER & FULL STACK DEVELOPER	*May. 2015 - Feb. 2016*

- 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.

Publications

FlavorDB: A database of flavor molecules	*Research Publication*
UNDERGRADUATE RESEARCH INTERN	*June 2017 - Aug. 2017*

- Collaborated with other research interns to compile a combined database resource for flavor information.
- Currently under review at Nucleic Acids Research journal.

Unsupervised Feature Descriptors based Facial Tracking over Distributed Geospatial Subspaces

Research Publication

UNDERGRADUATE RESEARCH STUDENT *Nov. 2016 - Feb. 2017*

- Designed a near real-time geo-spatial tracking system through distributed nodal systems.
- Accepted at International Conference on Pattern Recognition and Machine Intelligence 2017.

Hierarchy Influenced Differential Evolution: A Motor Operation Inspired Approach

Research Publication

UNDERGRADUATE RESEARCH STUDENT *Nov. 2016 - May 2017*

- Designed a novel motor function based evolutionary optimization algorithm inspired from the motor cycle in human beings and the co-operation through neural pathways. (https://arxiv.org/abs/1702.05308)
- Accepted as short-paper at IJCCI 2017.

Opportunistic Self-Organizing Migrating Algorithm on Real-Time Dynamic Travelling Salesman Problem

Research Publication

UNDERGRADUATE RESEARCH STUDENT *Apr. 2016 - Nov. 2016*

- Modified an evolutionary optimization algorithm to achieve better accuracy for multi-dimensional objective funtions, and achieved promising results for the complex problem of Dynamic Travelling Salesman Problem.
- Accepted for oral presentation at 51st Conference on Information Sciences and Systems (IEEE CISS) 2017. http://ieeexplore.ieee.org/abstract/document/7926065/

Recent Projects and Talks ─────────────────────────────

Implementation of Papers in Reinforcement Learning

New Delhi, India

MACHINE LEARNING, UNSUPERVISED, REINFORCEMENT LEARNING, RESEARCH *Aug. 2017 - PRESENT*

- Implementation of several RL algorithms for benchmarking on virtual environments.
- Implemented DQN, Policy Gradiend, Evolutionary Strategies, and some papers from ICLR '17

Library for Evolutionary Optimization Techniques

New Delhi, India

EVOLUTIONARY ALGORITHMS, GAME THEORY, NEURAL NETWORKS, OPTIMIZATION TECHNIQUES *Dec. 2016 - PRESENT*

- Built an Evolutionary Optimization Library for APIs for algorithms such as Genetic Algorithm, Particle Swarm Optimization, Differential Evolution etc.
- Designed a virtual bot to play board games while optimizing the outcomes to achieve a win (Link, Link)

Recent Talks and Workshops

TALKS, WORKSHOPS, TUTORIALS

- Workshop speaker at **PyData Delhi 2017**. Workshop on Deep Reinforcement Learning.
- Talk at **CoSys Lab, IIIT Delhi** on Recurrent Networks and LSTMs.
- Workshop on Machine Learning at **NSIT, Delhi** by Coding Blocks
- Several tutorials and talks at **DTU, Delhi** on Deep Learning and Applications

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*

Relevant Coursework ──────────────────────────────

Mathematics	Linear Algebra, Probability and Statistics, Stochastic Processes, Numerical Optimization
Computer Science	Algorithms and Data Structures, Theory of Computation, Applied Graph Theory, Fuzzy Logic
Additional	Financial Engineering, Computer Vision and Digital Image Processing, Computer Graphics