Nishant Arora

Deep-Learning Enthusiast, Seasoned Full-Stack Developer

I have worked on huge projects like Google flights and internal BI tools. I attained applied research experience in the fields of Deep Learning, Computer Vision and Human Computer Interaction during my Masters. I am now searching for new opportunities that help me leverage my skillset to work on emerging technologies.

EDUCATION

M.Sc. Applied Computing - University Of Toronto.

I completed the following courses:

- Introduction to Machine Learning.
- Creative Applications for Mobile Devices
- Communication for Computer Scientists

Awards:

Addictive Mobility Scholarship 2016

September 2016 — December 2017

May 2017 — December

- Human-Computer Interaction
- Advanced Mobile User Interfaces
- Deep Learning in Computer Vision

B.Tech. Computer Sciences and Engineering - Maharshi Dayanand University.	August 2008 — May
2012	
My favourite courses were:	

- Data Structures and Algorithms
- Web Development
- Intelligent Systems

- Digital Electronics
- Digital and Analog Communications
- Compiler Design

WORK EXPERIENCE AND PROJECTS

Computer Vision Researcher at Nureva Inc., Calgary, Alberta, Canada 2017

Working under supervision of Mr. David Popovich (Principal Imagineer, Nureva Inc.) and Prof. Sanja Fidler (University of Toronto) researching on real-time camera switching techniques based on context.

• Technical Internship (Master's program requirement):

- Equipped a model conference room to simulate meeting scenarios and generate custom data sets.
- Built a Linux-based video recording setup from scratch capable of recording, storing, processing and streaming 8-streams of 1080p HD video.
- Applied state of the art deep learning techniques to implement head-pose estimation, build gaze/attention detection models and perform activity recognition.

• Contributed to the OpenCV project to improve CUDA integration.

Skills Used: Python, C++, CUDA, Numpy, OpenCV, DLib, Tensorflow, Bash

Teaching Assistant at University of Toronto, Toronto, Ontario, Canada. September 2016 — April 2016 Worked with Prof. Karen Reid and Prof. Amir Chinaei on CSC309 - Programming on The Web course.

• Lab/Assignment Designing, Testing and automation:

- Built an Instagram Proxy API for students to help them learn node and REST api concepts.
- Enforced students to be accustomed latest industry standards and relevant style guides.

• Conducted live coding sessions for the entire term and helped students with their projects during lab hours. Skills Used: Python, Bash, Node, GitHub, JS.

Software Engineering Consultant at *Google, Gurgaon, Haryana, India*. 2016

Worked with gTech engineering and undertook multiple roles:

Tools Specialist - gTech Engineering Devshop

August 6, 2012 — August 5,

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http://nishantarora.in http://github.com/whizzzkid http://lnked.in/whizzzkid

2016

• Managed and maintained two internal business intelligence tools used by the AdSales Team. *Skills Used: Python, AngularJS, Backbone.js, Blaze Build system, Google AppEngine.*

- Crawling Specialist (SME) Gmail Intelligence Google Now July 2014 December 2014
 Built an intelligent parser backend which provides vital actionable information from gmail data for multiple google projects like google now, gmail cards, etc.
- Skills Used: Crawzall (Internal Crawling Infrastructure), JS, Python.

 Deep Link Crawling Specialist Flight Data Quality
 August 2013 June 2014

 Contributed to JS/Webkit based deep-link crawling mechanism to track/verify airline prices data.

 Skills Used: JS, C++, Crawzall (internal Crawling Infrastructure).
- Real Time Resource Analytics and Reporting

 Built a chrome extension based tracking tool for 3rd party contributors on the Freebase project.
 Skills Used: PHP, JS, Chrome Extensions, MySQL, Apache, Google APIs.

DEVELOPMENT STACK

- Google AppEngine
- Python/Node
- JavaScript/HTML (Front End technologies)
- Android/Java
- Numpy/Tensorflow (Machine Learning)
- OpenCV (Computer Vision)

GRADUATE PROJECTS

• Correctly — Speak Right: Speech recognition based, language training app which checks if the person speaks correctly.

Skills Used: Android, Java, Google Speech API.

- **Transfer Learning based image recognition:** As a part of course project, built a transfer learning based Image classifier and scored a top ten rank among more than two hundred students. *Skills Used:* Python, TensorFlow, Inception
- Using Fingerprint Reader as touchpad UX Study: Conducted a user study to understand back of the device interaction by converting the fingerprint reader on the rear side of the phone into a touchpad. *Skills Used:* Android, Java, HCI research techniques.
- **Recognizing Texts in the wild:** This was my deep learning project, where I built a model for classification and segmentation of the text appearing in the images in the wild. *Skills Used:* Python, Keras, TensorFlow.

PERSONAL PROJECTS

- Instagram Proxy API: A full fledged CORS compliant ReST API for Instagram's public Data. *Skills Used:* Node, Heroku.
- <u>Arduino Based Hexa-Rotor Helicopter</u>: Based on *Ardupilot Mega* platform, payloads capacity: 4kgs • Involved my aeronautical engineer friend, to understand avionics.
 - \circ Controlled using telemetry device attached to an android phone.

Skills Used: Arduino, Complex Electronic Circuits, Avionics, Power Distribution, Android, Python.

• <u>Youtube on repeat - Chrome Extension</u>: Fan made extension for youtubeonrepeat.com *Skills Used:* Javascript, Chrome.

UNDERGRAD PROJECTS

- WiFi and Arduino Based Surveillance Robot: based on recycled RC car platform.
 - \circ Soldered all circuits from scratch. Made all mounts and holders from recycled materials.
 - \circ Used a wifi router as a hotspot, Arduino chip with wifi sheild as controller. IP Camera to provide video feed.
 - \circ Built a very high power H-Bridge motor driver using mechanical relays.
 - Skills Used: Radio Transmission Techniques, Arduino programming and Hardware, Tools, MCU.
- Scara Robot: Designed and Implemented a 2D Robotic arm to write using a marker attached to its hand. *Skills Used:* Arduino programming and Knowledge about Hardware, Tools, Design and MCU.
- Hexapod Bot and Line Follower Bot: These two bots were made in workshops, earning a first prize, successfully

executed all the stances of a Hexapod and functions of Line Follower and edge detector *Skills Used:* Arduino programming and Knowledge about Hardware, Tools, Design and MCU.