Curriculum Vitae

Rishabh Thukral

Karlsruhe, Germany 76137 / +49 - 17626196270 / rishabh.thukral1997@gmail.com

Fluent in English, Hindi and Punjabi

Born February 01, 1997

Learning German

Nationality: Indian

Career Objective

My primary objective is to learn and spread the power of Artificial Intelligence. The field of Machine Learning and AI is growing at a remarkable rate and I believe it is the next paradigm shift in the digital world. I aim to help make the current technology better for people by using AI and hope to become a pioneer in the field of Machine Learning and Artificial Intelligence.

Work Experience

Feb '18 - Present Karlsruher Institut für Technologie	**Student Research Assistant** Institute of Data Processing and Electronics, KIT *Karlsruhe, Germany* - Developing a Deep CNN model using PyTorch that can detect lightening strikes in high speed videos. - After detection, the model will also classify the what type of lightening it sees based on a series of images. - Also have plans to in-cooperate learning from time series data for making the results more concrete.
May '16 - July '16 ketchupp	**Backend - Systems Engineer** Ketchupp.in (D I Info solutions Pvt. Ltd.) *Delhi, India* - *Feature extraction and detection from the text* in the context of recorded food deals from various websites for the purpose of analysing the nature and information about it from the data. - Developed a Facebook Messenger bot using basic NLP and Decision Flow implementation. - Also helped them with implementation of various API's for the web platform.

Technical Competency

Programming Languages	Professional expertise in **Python;** Also proficient in **C** and **C++ (competitive programming)**; have experience working with **Java and JavaScript**; Familiar with Javascript Frameworks like **NodeJS**; Learned and practiced **C, C++ and MATLAB** in classroom environment.
Databases	MySQL, MongoDB, SQLite, PostgreSQL, GCP Cloud Datastore
Skill Set	Machine Learning, expertise in Deep Learning models for Computer Vision, Recommendation Systems and NLP Algorithms LAMP Stack Development Web Design & Development Cloud Computing Services provided by AWS & GCP
ML Frameworks	Have expertise in working with **TensorFlow** and **PyTorch.** Also, have experience working with other frameworks like **SciKit Learn**, **NLTK**(Limited)
Operating Systems	Prefer to work on Mac OS X (Laptop) or Linux (Ubuntu Desktop) Also competent with windows, OS X and other linux variants.
Office Technologies	Microsoft Word, Power point and Excel Google Sheets, Docs, Slides and Google Forms Apple Pages, Keynote and Numbers

Academic Credentials

Year	Course	School / University	Percentage
2018	Bachelor of Technology **Computer Science and Engineering**	CGC College Of Engineering, *Landran, Mohali, India;* **Affiliated to Punjab Technical University**	75%*
2014	Class 12th **CBSE – Chemistry, Physics & Mathematics**	P. K. R. Jain Ser. Sec. Public School *Ambala City, Haryana, India*	79%
2012	Class 10th **CBSE**	P. K. R. Jain Ser. Sec. Public School *Ambala City, Haryana, India*	8.6 CGPA

Notable Projects

Travlrr Inc., Nov 2017 – Present

Utility	Travlrr is a tool for travellers which allows them to share their experiences with the world by the way of Travlrr Stories. These stories are then, presented to other users when planning their trips and when looking for something to do or someone to do it with. Our USP is that interactions in the app happen in the form of stories, which can be joined by friends you travel with or meet on your trips.
Technology	Python, Flask, REST, GAE, GCE.
My Role	Developed the architecture, backend APIs and media server for the platform from scratch.

Image Classification on 102 Category Flower Dataset, Udacity 2018

Utility	Developed and trained a Feed Forward Classifier Network on top of VGGNet to label the given image of a flower as one of the 102 categories available in the 102 Category Flower Dataset. Trained the model to get an accuracy of ~72%. Currently working on getting state of the art results using ResNet.
Technology	Python, PyTorch, Numpy, Convolution Neural Networks, Transfer Learning.
My Role	Developed and trained the Feed Forward Classifier network on top of VGGNet.

Lane Detection for Self-Driving Cars using Semantic Segmentation, Udacity 2017

Utility	Developed a Fully Convolution Network on top of VGGNet using skip layer architecture to label the pixels of a road in a image. This project can be considered as an extension of Jonathan Long and Evan Shelhamer's work in the paper "Fully Convolution Network for Semantic Segmentation". The model was trained on Kitti road data set on an AWS GPU Machine.
Technology	Python, Tensor Flow, Numpy, Convolution Neural Networks, Transposed Convolution Layers.
My Role	Developed and trained the network on top of VGGNet using skip layer architecture.

Deep Q Network on Flappy Bird, Self 2017

Utility	Developed the project following the description of the Deep Q Learning algorithm (Deep Mind) described in the Playing Atari games with Deep Reinforcement Learning. This project shows that this learning algorithm can further generalized to the notorious Flappy Bird.
Technology	Python, Tensor Flow, Numpy, Q – Learning
My Role	Developed and trained the network from scratch using tensor flow.

Feature Extraction and Detection from text data, Ketchupp 2016

Utility	*Feature extraction and detection from the text* in the context of recorded food deals from various websites for the purpose of analyzing the nature and information about it from the data. Further, the pipeline was connected to an EC2 instance on the cloud with seamless integration to the existing product.
Technology	Python, Some modules of NLTK.
My Role	Developed the entire pipeline from scratch.

Ketchupp Food Bot, Ketchupp 2017

Utility	Developed a Facebook Messenger bot using basic NLP and Decision Flow implementation. The bot allowed any Facebook user to get food media updates from the Ketchupp Blog and access many other exciting features like browsing daily recommendations, searching a dish, and ordering the food they want directly through the Messenger app.
Technology	Python, Flask, FMP (Facebook Messenger Platform)
My Role	Developed the entire web hook for the bot using flask in Python.

Some Other Projects:

- **MNIST ConvNet,** 2017
  MNIST is a dataset that contains images of handwritten digits. Developed a model with tensor flow to reach 99% accuracy in predicting the labels.

- **Sorting Hat**, 2016

  Python based Chat bot used to get a suitable stream option best fit according to the inputs provided. It is hosted on heroku and the interface is provided by the Facebook Messenger, the data thus provided is stored in a Mongo DB.

- **Facebook Clone,** 2017

  Developed a clone of the online social networking website – "Facebook" in order to understand some of functionality and the dynamics behind it. Lead the backend development team for the project. Backend was developed in Python using Mongo DB.

- **5 WORDS DAILY**, 2016 -2017

  Developed an android application which allows a user to learn 5 new words of English language every day through interactive activities like quiz based games and activities like fill in the blanks and match the following.

- **TMS (Transport Management System),** CGC 2016

  A web application to help the Transport Department of any Institution or a Conglomerate. It helps the Transport officer of the body to manage various records. Designed on top of CSS's Twitter Bootstrap framework and the backend of the application is running on a MICRO-FRAMEWORK for Python named Flask.

Academic / Co-Curricular Achievements

- Lead a team of 6 into the Final – National Round of "**Smart India Hackathon**" representing my college and the state Punjab.
- Lead the Projects team of CSE department in 6th Semester to finish the task in hand and now mentoring the same in 7th Semester.
- Independently completed Stanford University's **CS231n** course on **"Convolutional Neural Networks for Computer Vision"**. Have also undertaken various courses on **Web Development** and **Machine Learning** from platforms like **Udacity**, **Coursera** etc.
- Certified as Business Analyst, Software Engineer, Cooperate Communication Professional, Data Processing Specialist and various other positions based on **AMCAT Scores, 2017**.

Experiential Learning

- **Team Head:** Nuclear Science Club**,** Jan 2015 – Mar 2015
- **Club Coordinator and Designer:** Kerberos Club, Departmental Club, Sept 2015 – Feb 2016
- **Team-Leader:** Bits and Bytes - Smart India Hackathon, March 2017
- **Team-Leader:** Projects Team - CSE Department, Jan 2017 – April 2017
- **Mentor:** Projects Team - CSE Department, July 2017 – Present
- Former **Project Reviewer** for Udacity's Self Driving Car Nanodegree

Hobbies and Interests

- Browsing on internet to get updated regarding latest trends in the start-up ecosystem and the tech industry.
- To interact with people to have the discussions on advances in technology, mostly start-ups & AI.
- Speed Cubing - A speed cuber with a best of 33.54 seconds.
- Listening to music and occasionally jamming with my friends.

Personal Details

Date Of Birth:	February 01, 1997
Language Proficiency:	English, Hindi and Punjabi
Marital Status:	Single
Nationality:	Indian
Passport Validity:	Valid up to June 2027
US Work Visa:	No