

AADIL HAYAT

Computer Science & Engineering
Indian Institute of Technology Kanpur, India

Phone (+91) 9616827469
Email aadilh@iitk.ac.in
hayataadil@gmail.com
GitHub [www.github.com/aadilh](https://github.com/aadilh)
Website <http://aadilh.github.io>

Academic Qualifications

Year	Degree	Institute	CPI
2019*	Master of Technology	Indian Institute of Technology Kanpur	-
2017	Bachelor of Technology	Indian Institute of Technology Kanpur	8.4/10
2013	AISSCE (CBSE XII)	Delhi Public School Kalyanpur, Kanpur	94.0%
2011	CISCE (ICSE X)	Margaret Leask Memorial English School, Jhansi	90.8%

*Expected Year of Graduation

Scholastic Achievements

- Secured **All India Rank 1729** among nearly **150,000 students** in **JEE Advanced 2013**
- Secured **3rd** position in **Open Soft** (Software Development) competition at **Inter IIT Tech Meet 2015**
- Awarded **2nd Project Appreciation Award** in **TA-202 ME Lab 2014 - 15**
- Secured **3rd** position in **Hackathon** during **Entrepreneurship Summit 2014** organised by **Entrepreneurship Cell IIT Kanpur**
- Secured **All India Rank 42** in **National Talent Search Examination 2012** conducted by **Unified Council**

Internships

- **Deep Learning for Population Genetics** NYU, May'16 – July'16
 - Implemented pre-processing of genetic data from FSTAT format to allele-frequency matrix
 - Implemented dimensionality reduction by Auto-encoders using Tensorflow and Keras on HPC cluster
 - Implemented optimal number of clusters prediction using t-SNE, Silhouette coefficient and k-means clustering
 - Algorithm is used for deciphering organization of populations in space and time using genetic data.
- **Web Infrastructure and Web Crawling** IIT Kanpur, May'15 – July'15
 - Installed and configured CoreOS and Dockers on a bare metal server remotely.
 - Developed cloud-config for CoreOS and systemd unit services files for various Dockers.
 - Developed custom Dockerfiles for Postfix, MySQL and Hadoop cluster.
 - Implemented multi-threaded python program to crawl specific websites.
 - Installed and configured Docker based Hadoop cluster using hadoop Map-Reduce API for Python.

Projects

- **Playing DOOM game using Deep Reinforcement Learning** January'17 –April'17
 - Implemented Asynchronous Advantage Actor-Critic Method for learning to play DOOM game
 - Trained an agent to play DOOM game with super-human level performance
 - Implemented transfer learning to perform computer vision tasks using parameters learnt in DOOM mission
- **Helicopter Control using Deep Reinforcement Learning** August'16 –November'16
 - Implemented continuous control using actor-critic based deep reinforcement learning algorithm in Keras
 - Trained a helicopter agent to learn different tasks from Reinforcement Learning Challenge 2014
 - Integrated the code with helicopter simulator to visualize the learnt mission trajectory

- **Dynamic Video Synopsis** *Computer Vision , January'16 –April'16*
 - Implemented foreground-background separation using temporal median of pixels in video
 - Implemented video synopsis using Markov Random Fields
 - Solved Markov Random Fields using iterative graph cuts and loopy belief propagation
- **IITK Surveillance Video: Object Detection and Classification** *Machine Learning , January'16 –April'16*
 - Implemented foreground-background separation of surveillance video using Gaussian blur and threshold dilation
 - Implemented object detection by finding contours in background separated video
 - Implemented object classification by bag-of-visual-words model using SIFT descriptors
- **Neural Network Based Chatbot** *Natural Language Processing , August'15 – November'15*
 - Implemented Google's Seq2Seq model for modelling conversation
 - Implemented using Google's Tensorflow library for deep learning on Nvidia GTX 760 GPU
- **Mozart Oz Kernel Interpreter** *Principles of Programming Languages, August'15 – November'15*
 - Developed Interpreter for Kernel language of Oz
 - Implemented parsing of AST form of code and closure of functions
- **Project SPORADA** *Open Soft , Inter-IIT Tech Meet , January'15*
 - Developed a system to make the popular content available on phones having sporadic data connection
 - Designed backend server , Implemented automatic modification detection and incremental updates to client
 - Implemented intelligent storage management , file downloading and file rendering system client side
 - Secured 3rd position among top developers from almost all famous IITs
- **3d Game – ' It's Placement Time '** *Computer Graphics , August'14 – November'14*
 - Implemented OpenGL API in C++ to develop a 3d game, a comical picturisation of placements
 - Implemented gravity simulation, multi-player gaming , heads-up display, texture mapping and saving screenshots
- **Online Judge** *Summer Project , Programming Club , May'14 – June'14*
 - Developed web application using PHP , C , HTML/CSS & JavaScript for online programming competitions
 - Designed Administrative tools for intuitively managing and conducting competitions
 - Implemented background program compilation and execution for C and C++

Technical Skills

Programming Languages	C, C++, C#, Java, PHP, Python, JavaScript, SQL
Frameworks and Libraries	TensorFlow , OpenGL, Hadoop, Dockers, Keras, Scikit-Learn, LeapJS, ThreeJS
Mark-up and Styling	XHTML/HTML, CSS and XAML
Tools & Packages	GIT , AutoCAD , Octave , Matlab
Development Environments	Visual Studio , PHPed , Cloud9 and Android Studio
Operating Systems	Linux (Ubuntu, CoreOS) , Windows

Relevant Courses

- Visual Recognition *CS6980, Semester VIII*
- Computer Vision and Image Processing *CS676A, Semester VI*
- Machine Learning *CS771A, Semester VI*
- Introduction to Natural Language Processing *CS671A, Semester V*
- Principles of Programming Languages *CS350A, Semester V*
- Algorithms II *CS345A, Semester V*
- Data Structures and Algorithms *CS210A, Summer'15*
- Introduction to Computer Graphics *CS360A, Semester III*