

# NIKHIL PATIL

Senior Undergraduate, Dept of Computer Science and Engineering

F-111 Hall 1 IIT Kanpur-208016

E-Mail: nikhilp@iitk.ac.in

Phone: +91-9651609944

## EDUCATION

2012-16	B. Tech, COMPUTER SCIENCE AND ENGINEERING	Indian Institute of Technology, Kanpur	8.8/10.0
2012	12 <sup>th</sup> MAHARASHTRA Board (HSC)	Abasaheb Garware College, Pune	91%
2010	10 <sup>th</sup> MAHARASHTRA Board (SSC)	R. R. Highschool, Jalgaon	96%

## INTERNSHIPS

### Rocketbox

MAY 2015 - JUL 2015

- Developed an android app, Rocketbox Drivers, with integrated tracking module with real time location plugin for drivers
- Integrated local language support plugin was integrated along with GCM notification alarms for booking reminder
- Designed functionality to provide customer details along with generating bills at the end of the ride
- Enhanced scalability of code using libraries such as retrofit, eventbus, butterknife and testing was done using Junit framework

### Housing.com

MAY 2014 - JUL 2014

- Enhanced Housing's android app by improving response time and navigation
- Integrated Google maps for precise location and implemented K mean clustering algorithm to effectively display large data on map
- Coded a new tab to display relevant information about new projects and aerial view of construction sites
- Used GraphView library for displaying graphs for depicting various price trends

## AWARDS AND ACHIEVEMENTS

- Rank 1**, Regional Maths Olympiad (Maharashtra-Goa) 2011
- National Top 400**, Qualified for the Indian National Physics Olympiad (INPhO) 2011
- Kishore Vaigyanik Protsahan Yojana (KVPY) Fellow**, Indian Institute of Science (Govt. of India) 2012
- AIR 24 & AIR 72**, National Science Talent Search Examination (Unified Council) 2012, 11
- Two Time Global Top 35**, Intl. Maths Olympiad (SFO) & World Rank 5, Abacus Intl. Maths Challenge (GCS) 2009, 08
- Top 0.25%**, IIT JEE (50000 Candidates) & **Top 0.1%**, AIEEE (1200000 Candidates) 2012
- NTSE Scholar**, Awarded to the **Top 700** Students by NCERT (Govt. of India) 2008
- State Rank 1**, Maharashtra State Talent Search Examination (MTSE) 2010

## PROJECTS

### Automated Video surveillance

Prof. Harish Karnick

JAN 2015 - APR 2015

- Devised ad hoc variations of frame differencing algorithm for real-time foreground/background classification of frames
- Analyzed different techniques such as SVM, LDA, QDA and Frame Differencing techniques for their accuracy in classification
- Implemented an adaptive background model Codebook for foreground extraction from live feed by background subtraction
- Achieved 94% accuracy in classification of foreground and background frames

### Compiler for Perl

Prof. Subhajit Roy

JAN 2015 - APR 2015

- Implemented an end to end compiler for Perl in python which generates machine code for x-86 architecture
- Supported data types such as Integers, Strings along with operators, statements, loops and functions including recursive functions

### Predicting Sentiments in Movie Reviews

Prof. Harish Karnick

JAN 2015 - APR 2015

- Solved Kaggle based problem of classifying movie reviews on the basis of sentiment analysis and submission was amongst **top 50**
- Used feature extraction methods such as TF-IDF, bag of words, bag of centroids along with classifiers SVM, LDA, QDA, Random forest

### Extension of NachOS

Prof. Mainak Chaudhari

AUG 2014 - NOV 2014

- Extended the standard system call library of NachOS and implemented system calls pertaining to Fork, Exec, Join, Yield, Sleep and Exit
- Implemented shared memory along with semaphores and virtual memory to run large programs.
- Implemented page replacement and process scheduling algorithm: random, FIFO, round-robin to evaluate their relative performances

### Online Course Management System

Prof. Arnab Bhattacharya

AUG 2014 - NOV 2014

- Implemented online portal for course management system where different access were provided to student and teachers
- Developed various sections such as announcements regarding course, section to upload course material
- Enabled upload assignment functionality and data visualization by generating statistical reports and graphs for student performance

### Hockey de Air game

Robotics Club

MAY 2013 - JUL 2013

- Selected by DORA and awarded funding for future work
- Built motion controlled robots capable of playing game like air hockey using Image Processing techniques

## TECHNICAL SKILLS AND COURSES

**Languages & Technical skills:** C/C++, Python, Android Studio, R, Weka, Git, Latex

**Courses:** Machine Learning, Operating Systems, Compilers, Game Theory, Digital Communication Networks, Data Structures and Algorithms, Data Mining, Databases, Principles of Programming Languages, Probability and Statistics, Logic, Computer Organization

## EXTRA-CURRICULAR ACTIVITIES

- Polaroid (Techfest IITB):** Represented IITK; Used Path Planning Algorithms & Image Processing to fabricate robots
- IARC (Techkriti IITK):** Represented IITK; Implemented PID algorithms for robot navigation using Infrared Sensors
- Takneek: Rank 1**, Wild Soccer; **Rank 2**, Line Following Robotics Event (Intra-College)
- Sec., Robotics Club:** Organized robot building workshops (100+ participants) and industry expert lectures
- Won Science Quiz organized by University Department of Chemical Technology on National Science Day
- Organizer, Antaragni:** Coordinated the Model United Nations Event (150+ participants from 30+ colleges)