Sunil Pandey

Computer Science & Engineering | Mathematics
Indian Institute of Technology Kanpur

sunilkp442@gmail.com
kpsunil.github.io
(+91)-775-504-8062

Education

2014–Now **Bachelor of Science**
Computer Science | Mathematics
CGPA: 9.3/10.0

2014 **Grade XII, CBSE**
Percentage: 94.6%

2012 **Grade X, CBSE**
CGPA: 10.0/10.0

Work Experience

Summer Analyst, Goldman Sachs
Compliance Division, Bangalore *May-Jul'18*

- Employed machine learning techniques for extracting topic tags for a document
- Pre-processed firm data to get the significant content of the document employing parsing techniques
- Implemented various probabilistic approaches like LDA, HDP & CTM to generate topic vectors
- Implemented Map-Reduce Jobs on Apache Hadoop framework to deal with large scale of dataset
- Developed a UI using apache tomcat server displaying tags to given text representing its context

Research Intern, New York University
under Dr. Yao Wang, NYU *May-July'17*

- Implemented different baseline model employing tensorflow, numpy library to predict the saliency and user view in 360 degree video
- Worked on the implementation of LSTM & CNN to design a model for user view prediction
- Obtained less than 10% error in view prediction

RTE Internship, IIT Kanpur-UT Dallas
under Dr. Ovidiu Daescu, UTD *May-July'16*

- Worked on finding two edge disjoint spanning trees in a graph with 2n-2 vertices
- Studied Robert Tarjan's research paper; proved lemma for allocation of edges of 2-4 degree vertices
- Proposed an algorithm reducing the edges to less than n, a step towards linear time algorithm

Leadership Roles

Council Head *Mar'18 - Present*
Science and Technology Council

- Leading a team of 51 coordinators and executives, managing affairs of 11 clubs and 8 institute teams
- Guided and managed strict timeline in organizing Takneek'18 with 40 events across two weeks
- Represented IIT Kanpur at Pan-IIT Tech Meet Board meeting for drafting meet's constitution

Contingent Leader *Jan'18*
6th Inter IIT Tech Meet, IIT Madras

- Led 40 member team participating in 10 diff. events
- Bagged one gold, two silver and one bronze medal
- Exhibited 14+ projects; Initiated collaboration with DRDO, Govt. of India for soldier support event

Awards and Achievements

Now **Department Rank 1**
among 51 students

2016 **Academic Excellence Award**
IIT Kanpur, 2015 and 2016

2014 **All India Rank 1031**
JEE Advanced, 150,000 candidates

2013 **KVPY Scholarship awardee**
Scholarship by IISc, Govt. of India

2016 **Shortlisted, Interview Round**
Honda-YES Award (10/41 students)

2010 **State Rank1, Olympiad Rank 10**
International Olympiad, Mathematics

Projects

GOGO-MIPS Compiler for Golang
Under Dr. Subhajit Roy, IIT Kanpur

- Implemented a fully functional GoLang to MIPS compiler using gocc compiler toolkit in GoLang
- Incorporated multiple return values, nested loops, defer, struct among other features
- Exercised efficient register allocation policy along with other low level optimizations

Visual Question Answer
Under Dr. Harish Karnick, IIT Kanpur

- Experimented with multiple learning models to predict the answers of questions based on images
- Implemented Answer Type Prediction based, Question guided Attention, Knowledge based models
- Proposed a Joint Embedding approach with Image guided Attention on Question

Vehicle Recognition
Under Dr. Gaurav Pandey, IIT Kanpur

- Developed framework for registration and detection of vehicles using template matching
- Employed OpenCV library, learning models & pattern matching to get high accuracy OCR results

Web Development, IITK-NYC Office
under Dr. Manindra Agarwal, IIT Kanpur

- Implemented local cache to store values which haven't been sent to server using Angular2 framework
- Contributed towards integrating backend API calls to display comments on frontend

Coursework / Technical Skills

- Algorithms II A • Numerical Computations A*
- Compiler Design A • Probability&Statistics A
- Computer Organization A • Data Structures A
- Machine Learning A • Operating System B
- Computer Networks* • Time Series* *- Ongoing

Langs C/C++, Go, Java, Python
Utils OpenCV, Git, Angular, MySQL
OS Linux, Windows