

Prateek Chanda

Portfolio
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EDUCATION

IIST SHIBPUR

B.TECH IN COMPUTER SCIENCE
Grad. Aug 2019 | Howrah, India
GPA: 8.8/10

SOUTH POINT HIGH SCHOOL

Grad. May 2015 | Kolkata, India

LINKS

GitHub: [prateekiiest](#)
Google Scholar: [profile](#)
Kaggle: [prateekiiest](#)
LinkedIn: [prateekchanda](#)
Twitter: [@prateekiiest](#)
Medium: [Prateek-Chanda](#)

COURSEWORK

UNDERGRADUATE

Data Structures and Algorithms
Operating Systems
Data Mining
Machine Learning and AI
Probability & Statistics
Discrete Structures
Computer Graphics
Database Management

SKILLS

PROGRAMMING

• Python • Java • C++
• SQL • Ruby • R • Matlab

CONFERENCES

Google Developers Solve for India
FOSSASIA Open Tech
9th ICCCNT, IISc Bangalore
GitHub Universe
RISE 2017 Conference, Hong Kong

INVITED TALKS

Kharagpur Open Source Society - Talk
FOSSASIA Open Source Summit '18
PyCon India 2018
GitHub Universe, Campus Expert Talks

EXPERIENCE

MACHINE LEARNING & DATA ANALYSIS

MACHINE INTELLIGENCE UNIT, INDIAN STATISTICAL INSTITUTE

RESEARCH FELLOW | INDIA

UNDER PROF. ASHISH GHOSH

May 2018 – August 2018

Python, Jupyter Notebook

- Implemented a k-means centric optimization approach to discover similarity metrics from data distribution with better convergence and a 6.5% increase in accuracy measured by silhouette score compared to traditional methods.
- Performed comparative theoretical analysis on traditional metric learning algorithms with respect to precision metrics and convergence speed. - [Report](#)

COMPLEX NETWORK RESEARCH GROUP, IIT KHARAGPUR

RESEARCH INTERN | PROJECT

UNDER PROF. BIVAS MITRA

May 2017 – Jun 2017

Python, Jupyter Notebook

- Designed classification models upon student group dataset to predict group formation and group dynamics using mobile sensor data like wifi location, accelerometer values and voice levels.
- Achieved average precision of 88.9% measured by standard accuracy measures as compared to other proposed models. - [Project Report](#)

SUNPY, OPENASTRONOMY

STUDENT DEVELOPER | NASA OPEN SOURCE SOFTWARE | CONTRIBUTIONS

Dec 2016 – Apr 2018

Python

- Collaborated with a team of 60 researchers from NASA GSFC, UCL and Stanford on development of solar image processing algorithms and solar data storage functionality enhancements. - [Feature 1](#) , [Feature 2](#) , [Feature 3](#)
- Worked on implementation of solar image processing algorithms - [Multi-scale Gaussian Normalisation](#) with 18% improved memory utilization and better feature extraction with less noise.
- Got acknowledged along with researchers at NASA Goddard Space Flight Center in nine releases for contributions to the project. - [Software Releases](#)

SOFTWARE ENGINEERING

LINUX FOUNDATION - OPENDAYLIGHT

SOFTWARE DEVELOPER INTERN

Jul 2018 – Nov 2018

Java, Maven, reST

- Designed an automated Jenkins support for building jobs in Maven through a bot service affecting over 75% of Opendaylight projects. [Commits](#)
- Implemented a version of [mediawiki-rst migration](#) for conversion of mediawiki proposals to other formats. Worked on an automated design for constructing project dependency graph for over 93% versions of OpenDaylight projects.

FOSSASIA - SUSI.AI

SOFTWARE DEVELOPER INTERN | PROJECT LINK

Jun 2018 – Sept 2018

Node.js, Python, Java

- Worked in a team of 126 developers to develop prototype for the SUSI Smart Speaker Application along with implementation of APIs for various SUSI skills.
- Implemented speech-to-text and text-to-speech functionality for the Smart Speaker system with improved voice recognition accuracy of 91% measured using standard measures like Word error rate. [Commit 1](#) [Commit 2](#)

MINOR PROJECTS

codeIEST/Algorithms - Contributions
Shellix - Unix Implementation of Shell
Network Applications
Operating Systems
Titanic Survival Exploration
Boston Housing Analysis
Algorithm Self-Projects
Popular Movies
Project Mockup to Article
Animal Trading Cards
Bolt Labs

CERTIFICATIONS

Python for Research - Harvard University
Programmatic SQL Objects - Microsoft
Cloud Computing - Microsoft
Machine Learning Nanodegree - Udacity
Machine Learning Intro - Coursera
Software Engineering - Coursera
Operating Systems - Udacity

HACKATHONS

BOSS 17 - Within 0.08% top contributors
Hacktoberfest '17 - Successful Participant
Winner Intra-college Robotics Fest'16
World Codesprint - Within top 0.2%

MENTORSHIPS

DRI Research Head - Stanford Scholar
Google Code In with Jboss, FOSSASIA
HacktoberFest '17, '18
Kharagpur Winter of Code - IIT Kgp
24PullRequests
1 Million Women to Tech

VOLUNTEERING

Student Mentor - Code.org
GeeksforGeeks Campus Ambassador
Event Manager, TEDxIEST Shibpur

SOCIETIES

Community Member of NumFocus
FOSSASIA Developers Group
Google Developers Group Kolkata
University Open Source Head
GitHub Campus Expert
TEDx IEST Shibpur - Core Member

MAJOR PROJECTS

GRAPH BASED CLUSTERING - DOCUMENT TOPIC MODELLING ACADEMIC PROJECT UNDER PROF. ASIT KUMAR DAS

Designed a novel clustering algorithm based on importance factor calculation of nodes in complex networks with improved accuracy compared to traditional graph based methods like markov models. - [Publication](#)

LEUKEMIA CANCER CLASSIFICATION - GENE EXPRESSION ACADEMIC PROJECT UNDER PROF. SUSANTA CHAKRABORTY

Implemented a novel similarity metric for gene expression data based on radial basis function upon different centrality measures with improved classification accuracy of 65% w.r.t MLP. Project in progress.

SOLAR DATA ANALYSIS SYSTEM PROJECT LINK

Implemented a solar data retrieval system to collect solar data from various solar observatories based on date and time and analyze different helio-features from the data over a period of 10 years.

CONGESTION REDUCED ROUTING IN WDM NETWORKS ACADEMIC PROJECT LINK UNDER PROF. UMA BHATTACHARYA

Developed a novel probability based routing method based on an optimization approach in WDM optical networks with reduced congestion along with fast efficient communication.

NEURAL NETWORKS APPLICATIONS PROJECT LINK

Implemented various artificial neural networks including SLP, MLP and RBF from scratch and its applications on various data sets along with their detailed theoretical analysis.

MACHINE LEARNING AND DESKTOP APPLICATIONS PROJECT LINK

Worked on implementing a curated list of over twenty simple sub-projects using python, django ranging from games, core machine learning applications and desktop applications. Led a team of 60 open source contributors and mentored them in contributing to the project over 6 months period.

PUBLICATIONS

- 2018 A Novel Graph Based Clustering Approach to Document Topic Modeling
- 2018 Predicting User Group Activity Using Mobile Sensors - DOI
- 2018 Predicting Passenger Survival Rates on the Titanic - DOI
- 2017 SunPy Research Publications at Zenodo
- 2016 A Probabilistic Approach to Congestion Reduced Routing - DOI

ACHIEVEMENTS

- 2018 Recipient of Google India Udacity Scholarship
- 2018 Selected for prestigious research internship at Inria, France
- 2017 Recipient of Microsoft Research India Scholarship - IIT Kharagpur
- 2016 Selected as Udacity student - Self-Driving Nanodegree Program
- 2015 Within top 10% of applicants in All India Engineering Entrance Exam
- 2014 Student award - Within top 3 students from School in Higher Secondary.
- 2014 Awarded IISER Research Fellow Scholarship
- 2012 Among top 100 students in Science Olympiad Foundation (SOF) in state
- 2012 Among top 100 students in International Mathematics Olympiad in state