Prateek Chanda

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Education

Indian Institute of Engineering Science and Technology, Shibpur — Howrah, India
Bachelor of Technology in Computer Science; GPA: 8.89/10.0 — *Expected Aug 2019*

Thesis: Community Detection for Leukemia Cancer Detection Under guidance of Prof. Susanta Chakraborty

Relevant Coursework: Data Structures and Algorithms, Operating Systems, Data Mining, Machine Learning and AI, Probability & Statistics, Discrete Structures, Computer Graphics, Database Management, Computer Networks, Computer Architecture

Skills

- **Languages**: Python, C++, SQL, Java
- **Technologies**: AWS, GitHub, GitLab, Jekyll, GCP
- **Libraries**: TensorFlow, PyTorch, Keras, Scikit-Learn, Numpy, Pandas, Jupyter, OpenCV

Experience

Machine Intelligence Unit, Indian Statistical Institute — Kolkata , India
Research Fellow (Machine Learning) — *May 2018 - Aug 2018*

: 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 w.r.t precision metrics and convergence speed. - Report

SunPy, OpenAstronomy — Remote, US
Student Developer — *Dec 2016 - Apr 2018*

: 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

Complex Network Research Group, IIT kharagpur — Kharagpur, India
Research Intern — *May 2017 - Jun 2017*

: 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

Projects

- **Graph Based Clustering - Document Topic Modelling**: 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
- **Solar Data Analysis System**: 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.
- **Neural Networks Applications**: 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**: 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

- A Novel Graph Based Clustering Approach to Document Topic Modeling - ICCCNT 2018 IISc Bangalore
- Predicting User Group Activity Using Mobile Sensors - DOI
- Predicting Passenger Survival Rates on the Titanic - DOI

Achievements

- Recipient of Google India Udacity Scholarship
- Recipient of Microsoft Research India Scholarship - IIT Kharagpur
- Secured a rank within top 0.2% in World CodeSprint Hackerrank
- BOSS 17 - Within 0.08% top open source contributors
- Within top 10% of applicants in All India Engineering Entrance Exam
- Selected for prestigious research internship at Inria, France
- Among top 100 students in International Mathematics Olympiad in state

Additional Experience

- Mentored over 80 students under Google Code In 2018, Hacktoberfest 2018, 2017
- Led successfully a research team of 25 as a Direct Responsible Individual under the Stanford Scholar Program
- Leading the open source club at Campus as a GitHub Campus Expert - organising hackathons and open source mentorship programs