SAYANTAN BANERJEE | MA19M017
INDIAN INSTITUTE OF TECHNOLOGY, MADRAS

REGISTRATION NUMBER: 00/00/00/000

Education

Program	Institution	CPI/%	Year
M.Tech. (Industrial Mathematics scientific computing)	IIT Madras	8.42	2021
MSc (Pure Mathematics) [proof]	University of Calcutta	81.2	2019
BSc (Mathematics) [proof]	St.Xavier's College	75.83	2017
XII - WBCHSE [proof]	M.S.R.K.A.V.	89.6	2014
X - WBBSE [proof]	M.S.R.K.A.V.	91.1	2012

Scholastic Achievements

- **IIT GATE MATHEMATICS AIR-99**(2019)[proof]
- **LS(NET) CSIR MATHEMATICS AIR-86**(2019) [proof]

Awards and Scholarships

- **"INSPIRE"** scholarship by **DST,Govt.of India** for being in top **1%** in board exam, XII [proof] 2014-2019
- awarded Merit Certificate by **St.Xavier's College,Kolkata** for securing above **70%** in **first four semesters** of **BSc. Honours**[proof] 2017

Key Projects

- **M Tech Thesis**
  not decided yet:
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  -
- **Google and Pagerank Algorithm** **Mar 2020-May 2020**
  Modelling Workshop :Prof S.Sundar *C*
  - studied Pagerank computation using Markov chain and Frobenius theorem
  - constructed a basic search engine based on pagerank algorithm using python, scipy and beautiful soup
- **Topological optimization in one dimension** **Jan 2020-Mar 2020**
  Modelling Workshop: Prof S.Sundar *C*
  - studied about topological sensitivity analysis using classical gradient technique
  - formulated cost functional for two one dimensional equations to show that the form of topological gradient and classical gradient may differ from each other.
- **Decision Tree in Python** **Sep 2019-Nov 2019**
  OOPs Lab :Prof.S.Sundar
  - Implemented **SLIQ(decision tree classifier)** from scratch for handling both the numerical and categorical attributes,using gini index,information gain and entropy.
  - Used a pre-sorting technique for optimization in the tree growth phase.
- **Implementation of linear solver in C++ | Direct methods and iterative methods** **Sep 2019-Nov 2019**
  OOPs Lab :Prof.S.Sundar

- Implemented methods like gauss elimination and jacobi on the basis of sparsity constraints to optimize the time and space.

Course Work

- **Mathematics**: Mathematical Modelling in Industry,Modelling Workshop II,Numerical Linear Algebra ,Numerical Methods & Scientific Computing,Numerical Optimization,Numerical Solution of PDE
- **Algorithms and Data Structures**: Data Structures in Scientific Computing,Object Oriented Programming.
- **Machine Learning & Statistics**: Data Analysis & Visualization in R/Python/SQL,Applied Statistics,Stochastic Methods in Industry
- **Finance**: Mathematical Finance
- **Online course**: AI with Deep Learning (from GUVI,An IIT-M and IIM-A Incubated Company)[proof]

Technical Skills

- **Programming Languages**: C++, Python ,R
- **Tools and Technologies**: Numpy ,Pandas,scikit-learn, TensorFlow, LaTeX

Extra Curricular Activities & Positions of Responsibility

- Participated in **Madhava Mathematics Camp** sponsored by **NBHM, Govt. of India** [proof] Oct 2015-Nov 2015
- Paricipated in **Analytica-2014** organized by Department of Mathematics, St.Xavier's College, Kolkata [proof]
- Taught unprivileged children every sunday for one year on behalf of the NGO **IRERD** [proof] 2015-16
- Coordinator of **Forays-2020**