

# PARTHA GHOSH

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## EDUCATION

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**Eberhard Karls Universität Tübingen**

M.Sc. in Machine Learning

Tübingen, Germany

*November 2020 - Present*

**Indian Statistical Institute**

B.Math. (Hons.)

Bangalore, India

*July 2016 - May 2019*

Major in Mathematics and Minors in Statistics, Physics and Computer Science

Grade: 80% (First Division with Distinction)

## RELEVANT COURSES

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**Machine Learning:** Deep Learning, Convex and Non-convex Optimization, Data Mining and Probabilistic Reasoning, Mathematics for Machine Learning, Data Literacy

**Mathematics:** Linear Algebra, Multivariate Calculus, Optimization, Differential Geometry, Differential Equations, Graph Theory, Abstract Algebra, Real Analysis

**Statistics:** Probability Theory, Data Reduction & Estimation, Statistical Inference, Linear Models & ANOVA, Decision Theory

**Computer Science:** Algorithms and Data Structures, Programming in C, Numerical Methods

## PROJECTS (LINK)

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**Kaggle Machine Learning Challenges**

*March 2021 - April 2021*

- Worked on several Machine Learning Challenges including ‘Heart Diseases Detection’, ‘Spam Detection’, ‘Twitter Sentiment Analysis’.
- Achieved 88% accuracy on heart diseases detection using a Deep Neural Network and 98% accuracy on spam detection using a character level RNN and 70% accuracy on twitter sentiment analysis.

**PyEffects**

*July 2020 - October 2020*

- Built this animation engine with Python as fun a project.
- Can be used to create 2D/3D animations programmatically.

**From Nand to Tetris**

*June 2018 - July 2018*

Dr. Prof. Noam Nisan and Dr. Prof. Shimon Schocken

- Constructed a full-scale computer virtually, including the hardware and software.
- Built the computer platform using a simple HDL and simulated it on a hardware simulator.
- Implemented an assembler, a virtual machine and a compiler for a high-level programming language called Jack.

**Vertical Pen Plotter**

*December 2018 – January 2019*

- Built a vertical pen plotter, a drawing machine, using raspberry pi, stepper and servo motors.
- Wrote the software in Python to control the machine to draw on paper parsing the hpgl code of a vector image.

## TEACHING EXPERIENCE

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### Chegg

March 2019 - June 2019

Mathematics Tutor

- Taught college students various topics of mathematics and helped them solving problems.
- Maintained an excellent content feedback score.

## AWARDS AND GRANTS

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- Awarded prize money of Rs. 1200 for securing the second position in the third year of the B.Math. program.
- Received stipend of Rs. 3000 per month throughout the B.Math. program for excellent academic performance.
- Topped in high school in almost every class.
- Won awards in several drawing competitions.

## SKILLS

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**Programming Languages:** Python(4 years), C/C++(1 year), Octave/MATLAB

**Machine Learning:** Pytorch, Scikit-Learn, Pandas, Numpy, Matplotlib, Open-CV

**Web Development:** HTML, CSS, Javascript

**Data Collection and Data Management:** SQL, BeautifulSoup4, Selenium, Scrapy

**Languages:** English (fluent), German (basic), Hindi, Bengali

## EXTRACURRICULAR ACTIVITIES

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### Chess Tournament

Indian Statistical Institute

Participant

2017

- Participated in a chess tournament organized by Indian Statistical Institute and lasted till the semifinal round.

### Movie Committee

Indian Statistical Institute

Member

2017 - 2018

- Volunteered to make arrangements for the weekly movie show in the college auditorium.