

# Kaustav Sarkar

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## EDUCATION

### STONY BROOK UNIVERSITY MASTER OF SCIENCE IN COMPUTER SCIENCE

May 2020 | Stony Brook, NY, USA  
Cum. GPA: 3.57 / 4.0

### WEST BENGAL UNIVERSITY OF TECHNOLOGY

BACHELOR OF TECHNOLOGY IN  
INFORMATION TECHNOLOGY  
July 2016 | Kolkata, WB, India  
Cum. GPA: 8.07 / 10.0

## COURSEWORK

### GRADUATE

Theory of Database Systems  
(Research Assistant & Teaching Assistant 2x)  
Operating Systems  
Advanced Modern Cryptography  
Analysis of Algorithms  
Data Science Fundamentals  
Human Computer Interaction

### UNDERGRADUATE

Algorithm and Data Structures  
Database Management System  
Operating Systems  
Cyber Law and Security Policy  
Advanced Computer Architecture  
Computer Networking  
Software Engineering  
Compiler Design  
Internet Technology  
Object Oriented Programming & UML

## SKILLS

- **Languages:** Java, Python, SQL, C, PL/SQL, R
- **Databases:** Sybase ASE, MySQL, SQL Anywhere, IBM DB2, Oracle, PostgreSQL
- **WebDev:** HTML5, CSS3, JS, JQuery, PHP, Bootstrap
- **ORM:** Hibernate, Red Bean PHP, iBatis
- **Big Data:** Hadoop, Amazon Elastic Map Reduce
- **Data Science:** NumPy, SciPy, Pandas, Matplotlib, Seaborn, Scikit-learn
- **Platform and Framework:** Eclipse, IntelliJ, Pycharm, Spring MVC
- **Other Tools:** MS Office, Git, Apache SVN, Maven, Jira

## WORK EXPERIENCE & INTERNSHIPS

### TATA CONSULTANCY SERVICES (TCS) LTD. | SYSTEMS ENGINEER

Jul 2016-Dec 2018 | Kolkata, WB, India

- As a Database Developer, I designed, developed and maintained stable, reliable and effective SQL *Anywhere* databases. These databases were a part of an end-to-end IT modernization program to equip Department of Posts, India with modern technologies and systems to enable it to serve more services to more customers in an effective manner.
- As a Lead Database Administrator, I managed multi-clustered Sybase ASE server environments, that is capable of handling 24k+ clients simultaneously.
- As a Desktop Application Developer, I was a part of the development team responsible for developing the Central Instance (CI) module of the Point-of-Sale (POS) software. This involved using *JavaFX*, *Spring Framework* and *Apache iBatis* as the core technologies.

### MINISTRY OF INDIAN RAILWAYS, GOVT. OF INDIA | INTERN

June 2015 – Aug 2015 | Kolkata, WB, India

- I was a part of the development team that created the *Payroll Management System of Ministry of Indian Railways*, which is commonly known as *Integrated Payroll and Accounting System (IPAS)*. PHP and MySQL were the core technologies.

## RESEARCH

### KNOWLEDGE SYSTEMS LAB, STONY BROOK UNIVERSITY | RESEARCH ASSISTANT

Aug 2019 – Present | Stony Brook, NY

- I served as the **Lead Database Architect** of the research team, working alongside **Prof. IV Ramakrishnan** and **Prof. Paul Fodor** on **Fetal Heart Rate Project**.
- The project was approved and funded under the National Institutes of Health (NIH) Research Project Grant Program (RO1) to investigate machine learning methods for classification of intrapartum signals (FHR and uterine activity) that has the potential to significantly outperform the accuracy of contemporary methods.

## ACADEMIC PROJECTS

### SHARK2 DECODER | OCT 2019-NOV 2019

- SHARK2 is a large vocabulary shorthand writing system for pen-based computers. The project involves decoding an user input gesture and outputting the best decoded word, given a dictionary containing 10k words using the SHARK2 algorithm.

### IEEE-CIS FRAUD DETECTION | AUG 2019-SEP 2019

- Aims to improve the efficacy of fraudulent transaction alerts for millions of people around the world, helping businesses reduce their fraud loss and increase their revenue.
- I developed machine learning models on a challenging large scale dataset, provided by Vesta's real-world e-commerce transactions.

### STACKABLE FILE SYSTEM | MAR 2019-APR 2019

- Developed a Linux file system that automatically creates backup versions of files, on modification and also allows us to view versions as well as recover them.