JISHNU DEY

EDUCATION

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN
MS in Computer Science
May 2020 | Urbana-Champaign, IL

INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR
B.Tech in Electronics and Communication Engineering
May 2016 | Kharagpur, India
GPA: 9.36 / 10.0

COURSEWORK

GRADUATE
Deep Learning*
Advanced Information Retrieval*
*Ongoing

UNDERGRADUATE
Machine Learning
Advanced Operating Systems
Information Theory and Coding
Digital Image Processing
Convex Optimization
Probability and Statistics

SKILLS

PROGRAMMING
Proficient:
Python • C • C++ • MATLAB
Comfortable:
Java • Android • R • LaTeX • Git
Familiar:
SQL • HTML • CSS

MENTORING

Teaching Assistant
Teaching assistant for CS 125 at UIUC. Leading two lab sections and holding office hours.

Internship Mentor
Mentored two interns at Samsung. Helped with project understanding, supervised their progress and provided feedback.

CONTACT

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EXPERIENCE

SAMSUNG | Senior Software Engineer
Jun 2016 - Jul 2018 | Bangalore, India

- **Lead contributor to InstaBP**, an Android app for blood pressure measurement. Prototyped data processing, **feature engineering** and **machine learning** models in **Python**. Implemented **Java** backend code for the **Android app** published on **Google Play Store**. InstaBP was declared a winner in **NASSCOM's AI Game Changer Awards 2018**.
- Developed an **alertness estimation model in Python** from heart beat data using **support vector machines**. Published 2 conference papers in **IEEE EMBC 2017**. Developed the **C++** backend for Samsung Gear's Tizen OS platform.
- Helped the creation of a database (~10K) of Indian foods and nutrition information through **web scraping in Python**. Developed frameworks for **food type classification through transfer learning**.

PUBLICATIONS

[1] **J. Dey**, A. Gaurav, and V. N. Tiwari. InstaBP: Cuff Less Blood Pressure Monitoring on Smartphone Using Single PPG Sensor. In *2018 40th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, 2018.

[2] **J. Dey**, T. Bhowmik, S. Sahoo, and V. N. Tiwari. Wearable PPG Sensor based Alertness Scoring System. In *2017 39th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, 2017.

[3] T. Bhowmik, **J. Dey**, and V. N. Tiwari. A Novel Method for Accurate Estimation of HRV from Smartwatch PPG Signals. In *2017 39th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, 2017.

PROJECTS

IIT KHARAGPUR | Bachelor's Thesis
Distributed Deployment of Wireless Sensor Networks
Aug 2015 – May 2016 | Kharagpur, India
Worked on a distributed optimization problem to deploy self-interested **P2P sensor nodes aimed at maximally covering a given field**. Formulated the problem into a **game theoretic** interaction between self-interested agents and designed local optimization functions that guaranteed convergence with a greedy approach. Simulations were performed in **MATLAB**.

SAMSUNG | Summer Intern
May 2015 – Jul 2015 | Bangalore, India
Reduced noise in wrist-based PPG signals using adaptive filtering and achieved ~90% accuracy on IEEE Signal Processing Cup 2015 dataset, comprising of extremely noisy signals. Prototyped on **MATLAB** and implemented the backend code in **C++**. Received a return offer and joined after my Bachelor's degree.

IISC BANGALORE | Research Intern
May 2014 – Jul 2014 | Bangalore, India
Modeled the mutual interaction of two nanopropellers and performed a MATLAB simulation. **Verified physical experiments through the simulation results**.

ACHIEVEMENTS

2017	Samsung Citizen Award	Technology Excellence - **Innovator**
2017	GRE	**334** [V - 164, Q - 170]
2017	CAT [IIM]	**99.99 %ile** / 0.2 million applicants
2013	Math Olympiad, IIT KGP Tech GC	**Gold Medalist**
2012	IIT-JEE	**AIR 534** [99.91 %ile / 0.6 million]