

Saumo Pal

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EDUCATION

Indian Institute of Technology, Kharagpur | Multidisciplinary B. Tech + M. Tech **2015 – 2020**

- Bachelor's in Electronics and Electrical Communications Engineering with Master's in Financial Engineering; **GPA 8.53/10**
- Recipient of the **Kishore Vaigyanik Protsahan Yojana** (2015) and the **National Talent Search Examination** (2014) scholarships

PROFESSIONAL EXPERIENCE

Capital One | Data Engineering Intern | Bengaluru, India | Received a Full-time Offer **May '19 – July '19**

Automation and Data Warehouse Optimization for Capital One Auto Finance Department

- Analyzed existing data pre-processing solutions on company's data warehouses; detected **critical performance bottlenecks**
- Conceptualized a proof-of-concept machine learning pipeline over existing solutions; provided over **10x performance boost**
- Developed and automated data validation checks for **financial data** with **95% accuracy**; previously **undertaken manually**
- Deployed the above solutions in production; expected to bring down annual **data warehousing costs by 65%** in **2 years**

Skill-set used: SQL, Snowflake, AWS, Data Warehousing, Machine Learning, Financial data modeling, Cloud Computing

Mercedes Benz Research and Development India | Software Intern | Bengaluru, India **May '18 – July '18**

Virtualization of Telematics Unit for Remote Use by Mercedes Benz Research and Development Germany and Daimler India

- Identified **major testing limitations** in current telematics devices powered by NVIDIA Drive CX2 used in Mercedes Benz vehicles
- Implemented **virtualization toolkit for application testing** on remote devices; expected to reduce **monthly man hours by 30%**
- Improved user experience for telematics application development teams globally by **eliminating network latencies by 75%**

Skill-set used: Embedded Electronics, Linux Kernel Development, TCP/IP Protocols, Socket Programming, UI Development

SPACENOS (previously Weloft Technologies) | Product Management Intern | Bengaluru, India **May '18 – July '18**

Research on Features and opportunities for the expansion of the product portfolio under SPACENOS

- Identified **3 new feature additions** for an **influencer marketing tool** by conducting user interviews and competitor analysis
- Performed usability testing and feature prioritization through **high-fidelity prototype** creation using Figma and ReactJS
- Created PRD, roadmaps with developers; defined KPIs with analysts; prepared presentations for pitches to **Target Accelerator**

Skill-set used: User Research, Wireframing, Storyboarding, Figma, ReactJS, Usability Testing, PRD Development, Data Analytics

PROJECTS AND PUBLICATIONS

Medical Crisis Response System | Anveshan Innovation Center | Analog Devices India **Sept '18 – June '19**

Development of a novel Anaphylaxis Detection and Response System

- Devised an **innovative on-body sensor** which processes physiological signals to detect anaphylaxis due to allergic reactions
- Conceived a deep learning algorithm based on physician's annotations to discover anomalous signals with **over 87% accuracy**
- Presented the research developments in the **32nd IEEE International Symposium on Computer Based Medical Systems, Spain**

Application Testing Optimization | The Honeynet Project | Google Summer of Code **April '18 – August '18**

Creation of a Deep Learning toolkit for optimized Android Application testing

- Researched methods for enhancing **coverage of Android application testing bot** for detecting bugs using machine learning
- Implemented natural language processing methods; **increased coverage by 78%** while **reducing testing time by 30%**
- Responsible for knowledge transfer to security experts from **Peking University** and **Tsinghua University** for future upgrades

Election System Enhancements | Australian OSS | Google Summer of Code **April '17 – August '17**

Upgradation of existing Online Election Platform for use by Australian corporations

- Explored current **online voting infrastructure** used by Australian corporations and institutions for organizing internal elections
- Improved the library by adding over **40 voting algorithms**; refactored the code base for use by **Australian National University**
- Led a **three-tiered team** of developers, students and open source enthusiasts for further development and marketing

EXTRA-CURRICULAR ACTIVITIES

Student Mentorship

- Mentored a student under **Google Summer of Code '19**; selected as a delegate at Google Mentor's Meet
- Selected as a speaker at the **Students' Panel Discussion** on future technologies at **IEEE CALCON '20**
- Mentored over 10 students under **Kharagpur Winter of Code '19** to develop a resume creation toolkit

Competitions

- Top 3 among 1000 participants selected for the national finals of the **JP Morgan Quant Challenge '19**
- Winner and National Finalist, **Microsoft codefundo++ '18**; developed a disaster management application
- Top 9 among 2500 participants selected for the national finals of the **Goldman Sachs Quantify '18**
- Winner, **Accenture Innovation Jockeys '16** for creating a legal chatbot; covered by **YourStory Inc.**

Quizzing

- Won several **national quizzes** in the technology domain representing both the school and the institute
- **Captained Bronze** winning Inter Hall Technology Quiz team under Technology General Championship '18

Positions of Responsibilities

- Associate Member, **Technology Transfer Group**; engaged in identifying potential patentable inventions
- Student Member, **TEDx Kharagpur**; organized the 5th edition at IIT Kharagpur; witnessed 5000+ footfalls