

Arnab Sen

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EXPERIENCE

SWE (L4), Google

Jun 2023 – present | Bangalore, India

- **TL, Capping AdBrain Model Predictions:** Improve the capping framework to constrain over-prediction using Prediction Interval in a Poisson Log Loss Based DNN predicting conversion rates (pCVR).
 - Improved and calibrated over-prediction profiles within highly sparse, privacy-restricted spaces like [ITP](#) and brought down Revenue Wt. Bias from +11 to -3.
- **Lead, [Attributed Branded Search](#) (ABS) Modeling:** Currently leading the ML strategy and measurement for ABS within the Glitter project to recover conversion losses from signed-out traffic, targeting a **\$XXM ARR impact**.
- **Project Lead, [View-Through Conversion \(VTC\) Modeling](#):** Engineered and launched an end-to-end ML system to recover privacy-impacted VTCs for YouTube Demand Gen ads, projected to generate **\$XXM in ARR**.
 - Led a team (including an L3 engineer) and collaborated with Data Science to implement a **TFX-based pCVR model** with iterative calibration.
 - Optimized a high-throughput **Flume pipeline** to process **~20 billion daily ad impressions**, integrating reporting for YouTube's bidding systems.
- Engineering Leadership & Mentorship:
 - Promoted to **L4 Software Engineer** in 2024 (1.5 years) with an **"Outstanding Impact"** rating for significant contributions to core projects.
 - Served as a **C++ Readability Mentor**.
 - Mentored **5 Nooglers**, hosted **2 STEP interns**, and conducted **~40 technical interviews** to support Google's talent growth.
- **Tech Stack:** C++, TFX (TensorFlow Extended), Flume, GoogleSQL, F1 Query, Sawmill, Python,

AR/VR Intern, GMetri

Apr 2023 – Jul 2023

- Worked on the toolkit to generate dynamic metaverse based on user input utilizing OpenAI's GPT model.
- Designed and implemented a user-friendly UI for creating AI Brains and uploading information to populate and personalize their metaverse.
- Executed API integration to ensure the full functionality of the product, enabling smooth communication between different components.
- Tech Stack: *React.js, Typescript, Storybook, Node.js, Docker*

SDE Intern, Cypherock

Oct 2022 – Mar 2023

- Successfully integrated new protocol and server APIs to facilitate cryptocurrency exchange for users.
- Developed and integrated swap functionality for multiple cryptocurrencies including Bitcoin, Ethereum, Polygon, Solana, & ERC20 tokens in device firmware.
- Designed and implemented user-friendly swap functionality screens in the desktop application.
- Tech Stack: *C++, STM32 microcontrollers, Typescript, React.js, Electron.js, Redis, MongoDB.*

SWE Intern, Google

May 2022 – Aug 2022 | Bangalore, India

- Implemented an email-based notification system for an Ads Resource Engineering Team.
 - Explored the various notification platforms available at Google to select the best fit for our use case.
 - Prepared a detailed design doc for the implementation with the component overview, workflow diagrams, etc.
 - Integrated the notification system with a feature to demonstrate its working.
- Implemented features, fixed bugs, & performed unit testing in an internal Ads Planning Tool.
- Worked with *Java* in the backend and *Angular JS & Javascript* in the front end.

Student Intern, Summer of Bitcoin

Jul 2021 – Sep 2021

- Improved support for User Statically Defined Tracing (USDT) in Bitcoin core by adding new tracepoints and scripts, leveraging eBPF (extended Berkeley Packet Filter) technology.

- Learned Bitcoin Protocol Development.
- Conducted a session on "Bitcoin Script" with an audience of **150**.
- Worked mainly with C++, *gdb*, *Python*, and *Makefile*. (PRs: *PR-1* [↗](#), *PR-2* [↗](#))

EDUCATION

B.Tech, *Indian Institute of Engineering Science and Technology* [↗](#)
Stream: **Computer Science and Technology** (CGPA **9.62**)

2019 – 2023 | Shibpur, India

PUBLICATIONS

Detection of Cipher Types Using Machine Learning Techniques [↗](#),

27 Aug 2023

Computational Intelligence in Pattern Recognition

Developed a sequence-to-sequence machine learning framework using CNNs and Transformers to automate classical cryptosystem identification, achieving **96.72% accuracy** on a 130k ciphertext dataset.

SKILLS

Languages — C/C++, Python3, Javascript, Golang, Java, Typescript • **Frameworks** — React JS, Vue3, Bootstrap, Tailwind, Flask, Ruby on Rails, Express Js • **Others** — Firebase, MongoDB, Postgresql, Linux, Docker, Git

AWARDS

Cyber-Security Hackathon by [↗](#), *RISE*

Sep 2022

2nd position among **22k participants** in the Cybersecurity Hackathon.

Codevita 2022, *TCS*

Apr 2022

Ranked **98 globally** among **136,054** students (from **34** countries) in Round 2.

Hashcode 2022, *Google*

Feb 2022

All India Rank of **25** and a global rank of **311** with a score of 3001126 pts.

ICPC Asia Kanpur-Mathura Regionalist 2020, *ACM-ICPC*

Aug 2021

Ranked **72** among **200+** teams.

Summer of Bitcoin [↗](#)

Jun 2021

Among the **50** students that were selected out of **5000+** applicants.

Best Hardware Hack [↗](#), *Major League Hacking*

Jan 2021

Won the 48 Hour hackathon in the Hardware Category.

CoronaSafe Engineering Fellowship Program [↗](#), *AICTE*

Jan 2021

Secured a rank in the top **24** out of **50,452** applicants.

XROS Fellowship [↗](#), *Reskill, FICCI, Digital India, Meta*

Apr 2023

Among the top **100** candidates selected out of **10,000** applications & 2,500 project proposals.

CODING PROFILES

- **Leetcode** rating **2006**, top 2.31%. *arnabsen1729* [↗](#)
- **Codeforces** rating **1644** tagged Expert. *arnab1729* [↗](#)
- **CodeChef** rating **1841**, 4-stars. *arnab1729* [↗](#)
- **CTF Time** all India ranking **76** and **1116** globally. *0xw3bs3c* [↗](#)

BLOG

Blogs 

Substack 