Prahaladh Chandrahasan

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Education

Carnegie Mellon University — Pittsburgh, PA
Master's in Information Technology Privacy Engineering — Aug 2024-Dec 2025
Relevant Coursework: (Differential Privacy, Machine Learning, Privacy Policy, Information Security, Computer Law)

Experience

Bank of America Continuum India — Chennai, India
Software Engineer — Jul 2022-Jul 2024
- Automated End-to-End payment flows from initiation to clearing for the bank's transformation to Real-Time Payments.
- Developed **Tosca** UI and API modules that are reusable across multi-regional payment landscapes.
- Identified Critical defects, saving the bank around 5 million dollars.
- Co-ordinated releases by testing production defect fixes across various environments
- Introduced various process automation through **Tosca** and **Java** saving the bank around 1000+ manhours
- Reviewed 10+ potential patentable ideas across the GCIBT sphere

RedHat — Bangalore, India
Software Engineer Intern — Jan 2022-Jul 2022
- Worked with the RedHat Fuse team, contributed to and maintained the Hawtio open-source project
- Pushed two features ENTESB-18633 and ENTESB-18785 in the latest release: 7.11
- Developed UI for the Hawtio project using **AngularJS** and **Patternfly** framework
- Introduced **GitHub actions** to the entire Hawtio project which automatically closes old issues

Stealth — Chennai, India
Federated Learning Intern — Oct 2021-Nov 2021
- Implemented various Federated Learning algorithms from research papers using **Pytorch**
- Implemented differential privacy using the **Pysyft** library
- Designed and implemented experiments for testing out various hypotheses

Cloudanix (YC S21) — Chennai, India
Software Engineer Intern — Mar 2021-Aug 2021
- Developed cloud compliance rules for AWS accounts using the **Boto3 Python SDK**
- Mapped service provider-specific conformity rules to the controls that specify security and governance requirements

Manipal Institute of Technology — Manipal, India
Undergraduate Researcher — Jan 2021- July 2022
- Worked on Colorectal Cancer prediction using computer vision and Federated learning under Dr. Poornalatha G.
- Worked on Crowd Scene classification using computer vision and machine learning under Dr. Karunakar Kotegar
- Worked on building autonomous drones with in-situ computer-vision capabilities as part of AeroMIT under Dr. Kamlesh Kumar

Engineering Projects

Comparing Privacy guarantees of PPML libraries | Python, Opacus, TensorFlow-privacy — Oct-2024
- Compare the privacy vs utility tradeoffs of the Opacus and TensorFlow privacy library.
- Launched a Membership Inference Attack on DP-trained models and compared their re-identification percentage.

Covid-19 Chatbot | Python, Rasa — Aug-2020
- Created a Chatbot using the **Rasa** framework giving basic information and state-wise statistics on the COVID-19 pandemic
- Defined intents and created dialogue flows for handling all types of conversation
- Fetched real-time data from an API using **Python** for displaying real-time statistics
- Hosted the bot using **ngrok** in telegram

Credit-Card Fraud Detection | Python, Pytorch, Sci-kit learn, GAN's, Flask — Jan 2022
- Found an optimum algorithm for identifying fraudulent credit card transactions for creating a privacy-preserving FDS
- Used various statistical methods to analyze the data and handle the data imbalance
- Used custom **GANs** for generating synthetic training data for handling the class imbalance
- Applied Federated averaging to simulate a multi-agent training scenario

Awards and Achievements

- Received the Arpit Jain Best Researcher Scholarship for FY-2022-23.
- Filed a patent on Payments Fraud detection within the first year of my professional journey.
- Bagged 2nd place (Across India) in BRICS Future Skills Aerial robotics organized by WorldSkills Russia.

Publications

- **Motion pattern-based crowd scene classification using histogram of angular deviations of trajectories**. In The Visual Computer (2022).
- **Federated Learning for Colorectal Cancer Prediction**, in 2022 IEEE 3rd Global Conference for Advancement in Technology (GCAT), 2022
- Distributed, Privacy-Preserving, Payments Fraud Detection System. **Application No.18/239,214.** [Patent]

Skills

Languages: Advanced: C, C++, Python | Intermediate: Java, SQL | Basic: Bash, JavaScript
Technologies: Advanced**:** TensorFlow, Pytorch, GIT, Tricentis Tosca, Boto3 | Intermediate: PySyft, Opacus, Rasa, Flask