

Yash Parmar

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Education

Pennsylvania State University, College of IST

Expected Aug 2025

Pursuing Masters in Cybersecurity Analytics and Operations

Indian Institute of Technology Bombay

June 2017 - May 2021

B.Tech in Computer Science and Engineering with Honors

Research Experience

PRNG Seed Recovery Using SMT Modelling

February - May 2021

Guide: Prof. Bernard Menezes

IITB

- Implemented new approaches for state and seed recovery of commonly used Pseudo Random Number Generators - Mersenne Twisters, LFSRs and Truncated Linear Congruential Generators using **SMT** modelling
- Analyzed flaws in seed initialization phase of most commonly used general purpose PRNGs - Mersenne Twisters to recover 19937 bit state and initial seed using **32 bits of output** on a single core machine under **5 minutes**
- Developed new approaches for state recovery of Truncated LCGs for state recovery in $GF(2^n)$ where lattice reduction approaches fail due to non existence of modular inverses using far less outputs with **no false positive** solutions

Malware Detector-Classifer

February 2021

IITK Cybersecurity Hackathon

- Developed a malware detector cum classifier based on static analysis of program ensuring **zero risk** to host
- Processed **50GB** of malware and benign files to train high accuracy and f-score ML model for certain classification
- Selected prominent features via ExtraTreeClassifier using **Decision Tree Classifier** as base estimator and achieved **85% accuracy** for subclass malware detection and classification

Professional Experience

JioSaavn

June 2021 - August 2024

Senior Software Developer - Android

Mumbai

- **Leading B2B projects**
 - Engineered specialized build variant of app for AOSP infotainment devices **optimizing memory usage by 58%**
 - Elevated UX by designing **adaptive screen layouts** and app widgets, while pioneering the voice assistant integration, increasing user engagement by **20%** and user retention by **32%** for JioSaavn in MG Motor cars
 - Reduced crashes, ANRs and non-fatals by **95%** through integration of Firebase Crashlytics, enhancing app stability
 - Pioneered the development of JioSaavn for **Automotive OS** (for Harman), securing its position as one of the first pre-installed media app in India for AAOS infotainment systems
- **Login Optimizations**
 - Achieved a significant **14% memory usage reduction** by seamlessly replacing fragments with Jetpack Navigation Component Screens, during the UI/UX overhaul with **Jetpack Compose**
 - Pioneered a remarkable **52% reduction in login time** by innovatively integrating the **Google One-Tap SignIn** and **Auto-SMS Retriever API**, streamlining complex authentication flows to enhance user login efficiency

Leadership Experience

Internship Coordinator

May 2019 - April 2020

Internship & Placement Cell, IITB

Mumbai

- Part of **35** membered team entrusted with the task of streamlining internships for **2000+** students
- Planned and conducted institute-wide coding tests helping **300+** students to enhance their internship preparation
- Managed and coordinated 20+ placement interview process for top tier-1 tech and consulting firms spanning 4 days

Technical Skills

Programming

Android App Development, Kotlin, Jetpack Compose, C++, Python, Java, R

Courses Undertaken

Advanced Network Security and Cryptography, Blockchains, Cryptocurrencies and Smart Contracts, Automated Reasoning, Foundations of Network Security and Cryptography, Information Security, Software Security, Human Factors in Security