Kritin **Garg**

SOFTWARE ENGINEER

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Experience

Samsung Electronics (HQ)
SOFTWARE ENGINEER, VISUAL DISPLAY DIVISON
Suwon, South Korea
September 2021 - PRESENT

- Responsible for developing and maintaining Samsung Smart Tv apps registration and verification portals
- Developed a new microservices based architecture with API Gateway, shifting from traditional monolithic architecture
- Improved user experience by implementing custom web socket based notification and 1:1 Q&A functionality for Tv app developers
- Reduced processing time of privacy rights tickets from 7 days to 1 day by developing a pipeline to automatically handle tickets daily
- Developing a system to predict Tv App pass/fail status to reduce App testing time from 30 days to minutes for Tier-3 apps
- Received Software Engineering Award in 2022 biannual work review, limited to top 10 employees across Visual Display divison
- Managed a team of 3 developers and 1 tester from Samsung Delhi dedicated to product testing, dev-ops and feature development
- Experience with handling large code (8+ years old) including new features, unit tests, bug fixes, making deployments using pipelines, monitoring health and complete ownership of various microservices

Syfe
SOFTWARE ENGINEER(INTERN)
Singapore
May 2021 - Aug 2021

- Improved execution time of several APIs, reducing time ranging from 50% to 10% using Datadog based API profiling too
- Developed Kafka based message queue to reduce processing time and easy handling of asynchronous tasks
- Implemented distributed job across multiple containers to generate all users monthly trading statements using Apache Camel, Redis and SQL database . This helped in reducing processing time n folds and resolved single container out of memory issues

CollegeTech
ENGINEERING HEAD
Mumbai, India
September 2020 - April 2021

- Developed a college management platform with separate interface for students, parents and teachers (both app and website)
- Created an end-to-end secure platform to ensure Zero Cheating while conducting online virtual exams
- Build the tech from ground up, taking complete ownership of designing, implementing and deploying the product

Hedge Fund
QUANT RESEACHER(INTERN)
Singapore
July 2020 - August 2020

- Generated artificial stock market data using GAN to increase dataset size for developing medium frequency trading strategies
- Implemented the pipeline for backtesting strategies and predicted next day stock return using deep learning techniques

Samsung Electronics(HQ)
SOFTWARE ENGINEER(INTERN)
Suwon, South Korea
May 2020 - June 2020

- Built an Android app based Chatbot to resolve developer queries regarding Samsung Smart TV app development documentation
- Stored the complete documentation in a knowledge graph and returned the best possible answer by pattern matching algorithms

AWL
MACHINE LEARNING ENGINEER (INTERN)
Sapporo, Japan
April 2020 - May 2020

- Trained a single model to perform age, gender and mask classification for both mask wearing and non-mask wearing faces
- Generated mask annotated of all non-mask wearing face images dataset using Pix2Pix GAN models

Aarhus University
RESEARCH INTERN
Aarhus, Denmark
Dec 2019 - Jan 2019

- Developed an android app to predict most probable disease based on patient's symptoms from data stored in a knowledge graph

IRISA
RESEARCH INTERN
Rennes, France
May 2019 - July 2019

- Designed some new algorithms with better time complexity to verify opaqueness (security) in an Interval Markov Chain [paper]

Education

Indian Institute of Technology(IIT) Bombay
B.TECH IN COMPUTER SCIENCE AND ENGINEERING WITH HONORS, CGPA: 9.79/10.0
Mumbai, India
Aug 2017 - May 2021

- Graduated with Department Rank 5 out of 120+ students in the Computer Science Divison
- Received Institute Academic Prize (given to top 10 students across Institute) for exceptional academic performance
- Awarded Advance Performer grade in 3 courses given to top 10 out of 900 students for academic performance
- Completed an additional minor degree in Applied Statistics and Informatics

Skills

Languages	Python, Java, Kotlin, JavaScript, C++, C, GoLang, HTML, CSS
Frameworks	SpringBoot, Django, Angular, React, Flutter, Android, Jenkins, AWS, Docker, GraphQL
Data Science	Pytorch, Tensorflow, Keras, OpenCV, NumPy, Sklearn

Achivements

IIT-JEE Advanced :	Secured All India Rank 56 in JEE Advanced out of 150,000 students in India	*(2017)*
JEE Mains :	Secured All India Rank 22 in JEE Mains out of 1.2 Million students in India	*(2017)*
Chemistry Olympiad :	Amongst the top 35 students selected for INCHO, conducted by HBCSE	*(2017)*
Junior Science Olympiad :	Amongst the top 35 students selected for INJSO, conducted by HBCSE	*(2015)*
KVPY Fellowship :	Secured All India Rank 63 in KVPY, conducted by DST, Govt of India	*(2016)*
NTSE Scholarship :	Awarded NTSE scholarship conducted by NCERT, Govt. of India	*(2015)*

Projects

Complete Health Management System   *IIT Bombay*
GUIDE: PROF. S. SUDHARSAN   *Spring 2019*

- Built a React App for scheduling online appointments, managing consultations and past medical records of patients
- Developed the system based on the idea of EMR(Electronic medical records) allowing the complete process to be paperless
- Provided hospitals with a separate Management Web App to handle appointments, online consultations and other tasks
- Used Knowledge Graph to store complete medical health history of each patient to be accessible to doctors

Secure Personal Cloud   *IIT Bombay*
GUIDE: PROF. SOUMEN CHAKRABARTI   *Autumn 2018*

- Implemented a Zero-Knowledge based secure cloud using RSA, ARC4, Blowfish and AES-CBC block level file encryption at the client side to ensure secure end-to-end encrytion while uploading files
- Developed a server with Django web framework at the back-end integrated with an SQL database
- Provided a Linux client which regularly monitored user data directory and will actively sync data as per your requirements

Protection Against Sophisticated DOS attacks   *IIT Bombay*
GUIDE : PROF. BERNARD MENEZES   *Spring 2019*

- Implemented a Python Daemon that maintains real time profiles of each user, detects Sophisticated DOS attacks and communicates with the server to block malicious users through two layer filtration
- Developed a security library that protects any C++ server with minimal code and performance overhead
- Used Function Level Profiling and Statistical Execution Model to detect and block malicious requests
- Based on an algorithm Rampart which was presented in USENIX Security Symposium 2018

Adversarial Attacks on CNNs   *IIT Bombay*
GUIDE: PROF. SUNITA SARWANGI   *Spring 2019*

- Studied and Implemented various attacks on CNN and their preventive techniques on different datasets
- Performed Carlini-L2 adversarial attack for CNNs and tested accuracy on various datasets.
- Implemented a Gan Based Solution to fool Carlini-L2 attack and achieved 90% accuracy on MNIST dataset

Visual Question Answering for Charts and Graphs   *IIT Bombay*
GUIDE: PROF. SOUMEN CHAKRABARTI   *2020-21*

- Developed End-to-End Models to answer simple questions based on different Charts and Graphs
- Built Architectures to relate legends in charts to citations in a paper or paper itself
- Ensure robustness of the developed models to Visual Changes in colors and syntax of different Chart

Position Of Responsibility

Department Academic Mentor :	Mentored 6 students to assist them in navigating department-specific curriculum	*(2020)*
Teaching Assistant :	Conducted weekly tutorial sessions for a batch of 50 students	*(2018)*
Volunteer Coding Club :	Actively planned and organized various hackathons, techincal talks and other events	*(2019)*