

Harshal Rohit

FINAL YEAR POSTGRADUATE · COMPUTER SCIENCE AND ENGINEERING

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Education

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|--------------|-------------------------------|--|-----------|
| 2019-Present | M.Tech (Computer Sc. & Engg.) | Indian Institute of Technology, Kanpur | 8.57/10.0 |
| 2013-2017 | B.Tech (Computer Engineering) | SVNIT, Surat | 8.21/10.0 |
| 2011 -2013 | Higher Secondary Certificate | Sarvajanik Vidyalaya, Daman (GSEB) | 80.4% |
| 2010-2011 | Secondary School Certificate | S.M.M.E.M School, Daman (GSEB) | 84.2% |

Industry Experience

Oracle Financial Services Software Ltd., Mumbai, India | Associate Application Developer

Aug. 2017 - Jun. 2019

- Developed, documented and performed integration testing of a ML pipeline using newly introduced Oracle Machine Learning for R (OML4R) to deliver the use-case of customer churn prediction.
- Designed and developed File annotator web application to aid the user in creating annotations for image files required to create a corpus for training an NLP model.

Research Experience

Custom speech recognition models on device (M.Tech Thesis) | Guide: Prof. Nisheeth Srivastava

Aug. 2020 - Present

- Port custom speech recognition models to javascript, enabling the capability to perform on-device training and inference.
- Explore & Implement federated learning in the current system.

Relevant Course Projects

Malware Detection using ML | Course: Malware Analysis & Intrusion Detection

Feb. 2020

- Built an ML classifier using random forest algorithm and features extracted from static and dynamic analysis of executables to detect malwares.
- Extracted and categorised the raw features into subsets such as api-calls, network-calls, file & registry operations, etc. and analysed the performance of classifier on different combinations of these subsets.

DeCAPTCHA: Automated CAPTCHA text detection | Course: Introduction to Machine Learning

Nov. 2019

- Implemented an architecture to separate characters and used them as features to SVM classifier to extract text from CAPTCHA image.
- Explored image processing techniques such as erosion, dilation & contour detection to separate the characters.

Server Exploitation and Sandboxing | Course: Computer System Security

Oct. 2019

- Gained hands-on experience in finding and exploiting vulnerabilities in a web server to perform malicious actions on server such as deleting/overwriting files, list/kill currently executing processes.
- The vulnerabilities explored include buffer overflow, return-to-libc, shellcode injection.
- Also explored mechanisms such as input sanitization, memory/stack protection, linux namespaces to prevent such attacks.

Secure Dropbox | Course: Computer System Security

Aug. 2019

- Designed and implemented a file store architecture to store and share files in the context of storage server being malicious.
- Gained hands-on experience in utilising cryptographic primitives (such as symmetric and asymmetric encryption, HMAC) to achieve security properties - Confidentiality and Integrity in the project.

Personal Projects

Job search portal

Jun. 2020 - Jul. 2020

- Developed a job listing portal with functionality to notify recruiters via e-mail the applicant's relevant details.
- Explored and utilised technologies/libraries such as Nodejs, ReactJs, antd-react, Heroku.

Configuration file converter

May. 2020 - Jun. 2020

- Developed an API to convert configuration files between various formats such as XML, JSON, YAML.
- Explored and utilised technologies such as Nodejs, AWS Lambda, AWS API Gateway to implement and deploy the API.

Technical Skills

Programming & Web Python • C++ • Javascript • Node.js • HTML • CSS • Scala • C • R

Libraries & Frameworks Tensorflow • ReactJS • React Native • ExpressJS

Position of Responsibilities

Teaching Assistant | Indian Institute of Technology, Kanpur

Aug. 2019 - Mar. 2020

- Mentored students during laboratory sessions of Fundamentals of Computing

Co-Curricular

Convolutional Neural Networks in TensorFlow | Coursera.com

Jul. 2020 - Aug. 2020

Bayesian Methods for Machine Learning | Coursera.com

Apr. 2020 - May. 2020

Relevant Courses

Introduction To Machine Learning

Cyber Security of Critical Infrastructures

Malware Analysis and Intrusion Detection

Computer Systems Security

Designing Verifiably Secure System