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Romanch Agrawal

Research Scientist

Objective

Collaborate, learn and grow with great minds in Computer Science and, in process, create innovative products which solve real-life problems.

Summary

- Over 6.5 years of experience in shipping novel Anti-Malware Solutions using Machine Learning.
- Full Stack Developer with over 3 years of experience in designing & developing scalable cloud solutions.
- Fast learner and problem solver with a result-oriented approach. Strives to continuously learn & grow.

Experience

RESEARCH SCIENTIST, INTEL SECURITY LABS (PREVIOUSLY MCAFEE LABS) – JULY 2010 - PRESENT

Researcher & Developer for the Anti-Malware Research Solutions team in the ISecG Labs Malware Operations group. We strive to innovate and design novel anti-malware solutions that can keep customers safe and secure from zero-day malware attacks. Highlighted research & dev solutions as part of the team:

- **Research Solutions**
  - Method for Featurization of Behavioral Events of Programs.
  - Method for Incremental Clustering used in Identification of Malware Variants in real-time.
  - Method for Signature-less Classification of Programs using Regression & Support Vector Machines.
  - Method for Profiling of Malicious Processes using Decision Trees
  - Method for Identifying Malicious Programs based on Icon Similarity in Portable Executables.

- **Dev Solutions**
  - **Real Protect**: Novel cloud-based Anti-Malware Solution for classification of files using behavior-based and static file features.
    https://www.mcafee.com/us/downloads/free-tools/realprotect.aspx
    - Key Architect & Developer for scalable backend cloud in AWS for providing real-time classification to clients.
    - Developer for classification & featurization modules in the endpoint client.
  - **CompareIcon:** Developed C library for efficiently comparing icons in portable executables
  - **Process Profiler:** Profile malicious processes using observed behaviors (part of consumer & enterprise Anti-Malware products).
    - End-to-end developer for Client Library & Cloud Telemetry (using DNS queries).

Skills

Machine Learning: Feature Engineering. Data Pruning. Dimensionality Reduction. Using kernel trick. Supervised methods: Decision trees, Regression, Support Vector Machines, Artificial Neural Networks. Un-supervised methods: Clustering.
Big Data: ElasticSearch. Hadoop Map-Reduce. MongoDB
Cloud Computing: AWS
Messaging: RabbitMQ
Programming: C. C++. Python. JavaScript
Databases: MySQL, Redis
Web: Angular. D3. jQuery. PHP. Node.js.

Education

Uttar Pradesh Technical University – Bachelor of Technology with Honors in Computer Science & Engineering, 2007.