PRABESH PAUDEL pprabesh332@gmail.com | (419) 378-4129 | https://paudelprabesh.github.io

WORK HISTORY

Research Assistant – Bowling Green State University, Bowling Green, OH **Aug 2019 – May 2021**

Languages & Frameworks: Python, TensorFlow, Keras, PyTorch, AWS EC2, AWS S3, CNN, CapsNet, CapsGNN, GCN, LSTM

- ✓ Built a malware classifier based on sequence API calls from IR language code (smali like) of an android app.
- ✓ Published the paper on IEEE CNS 2020.
- ✓ Improved the malware classifier using true sequence of API calls extracted directly from control flow graph.
- ✓ Published a thesis in the topic with multiple test scenarios explaining inflation of results caused by biases in test set.

Web Developer Intern - ACM SIGGRAPH, Bowling Green, OH **May 2020 – Aug 2020**

Stack: PHP, JavaScript, MySQL, HTML5/CSS, jQuery, Mapbox API

- ✓ Built a Mapview showing locations of all the people and exhibition related to SIGGRAPH exhibition.
- ✓ Created REST API endpoints to retrieve coordinates from the MySQL database.
- ✓ Developed the map view using JavaScript and Mapbox API.
- ✓ Created custom data export for all people and exhibitions of ACM SIGGRAPH archive website.

Web Developer – G. And D. Developers, Kathmandu, Nepal **January 2018 – April 2019**

Stack: JavaScript, PHP, MySQL, HTML5/CSS, Security

- ✓ Developed a portal for freelancing content writing job seeker and employer.
- ✓ Created multi-level users: Admins, Moderator, Verified Users and Users.
- ✓ Send Email notification using PHPMailer, when a job is downloaded by a verified job seeker.
- ✓ Set up security measures to prevent XSS, SQL injections and implement other security procedure.

SKILLS

Languages: Python, C++, C, Java, SQL, HTML5/CSS.

Web Development: JavaScript, jQuery, PHP, MYSQL, HTML/CSS, Security

Cloud: AWS S3, AWS EC2

Machine/Deep Learning: TensorFlow, Keras, Pytorch, Computer Vision, NLP, CNN, CapsNet, LSTM, CapsGNN, GCN

Others: Git, Linux, QT Framework, open-source development

PUBLICATIONS

D.Chaulagain, P.Poudel, P.Pathak, S.Roy, D. Caragea, Guojun Liu and Xinming Ou G. "Hybrid Analysis of Android Apps for Security Vetting using Deep Learning" -> See publication

THESIS: *Security Vetting of Android Apps Using Graph Based Deep Learning Approaches.*

Tools: TensorFlow, Pytorch, CapsNet, CNN, GCN, CapsGNN, AWS EC2, AWS S3

- ✓ Built a vetting model to classify malware and benign android applications.
- ✓ Extracted control flow graphs of several android apps parallelly using python multi-processing on AWS EC2 and S3.
- ✓ Performed significant architectural changes in CapsGNN framework as a part of hyperparameter tuning.
- ✓ Evaluated the model on biased and unbiased test scenarios to show the effect of choosing a real-life test set.
- ✓ Closely studied computer vision, sequence data, CNNs, CapsNet, GCN and CapsGNN, android apps and ecosystem.

Projects

KeePassXC | C++, QT Framework, GIT, Open-Source Contribution View my pull requests.

An open-source multi-platform password manager.

- ✓ Contributed to a matured and open-source C++ codebase.
- ✓ Used QT framework to probe for file sizes and issue warning dialogs.

NeuroPlay | Python, NumPy, Neural Networks, Genetic Algorithms See project

Evolving birds (represented by neural networks) to play the game on its own.

- ✓ Evolving a population of neural networks to play a game alike flappy bird on its own.
- ✓ Modelled the neural networks, trained them using genetic algorithm only using NumPy.
- ✓ No deep learning framework used.

EDUCATION

MS in Computer Science | Bowling Green State University, Bowling Green, OH| GPA: 4 **2019 - 2021**

BS in Computer Engineering | Tribhuvan University, Nepal **2013 – 2017**