Nikolaos Pantelaios

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EDUCATION

North Carolina State University, NC, USA *2018-Present*
PhD , Computer Science - *Supervisor:* Alexandros Kapravelos
Research Interests: **Web Security & Systems, Pattern Recognition & Machine Learning**

National Technical University of Athens(NTUA), Greece *2012-2017*
BSc & MSc in Electrical and Computer Engineering (5-year joint degree; 300 ECTS)
Thesis: Personality Traits Recognition from Speech using Neural Networks
Supervisor: Alexandros Potamianos

EXPERIENCE

Research Intern - Product Security & Big Data, ByteDance, CA *2021*
· Categorized failed SSL/TLS **TikTok** certificates from untrusted sources
· Performed exploratory SSL certificate analysis, generated and tested working hypotheses and uncovered interesting trends and relationships
· Analyzed **TikTok** logs of tens of Petabytes connection SSL certificates

Research Intern - Product Security & Data Science, ByteDance, CA *2020*
· Developed a comparison system to check for compromised accounts in the **TikTok** user base
· Used Hadoop & Hive to handle Big Data, coding in both Python & GoLang

Research Assistant - Web Security, NCSU *2018 - Present*
· Established Proficiency in Code Development & Remote Testing using Docker & Kubernetes
· Managed & coordinated Research Groups from different Universities

Teaching Assistant - C & Programming tools, NCSU *2018 - 2019*
· Guided large Group of Students (200) & organized live coding Competitions for interactive Teaching
· Drilled desired Programming Practices (GitHub, LateX, writing clean Code)

Intelen, Energy Consumption Analysis Company, Greece *2016 - 2017*
Software Developer
· Developed Energy Consumption Python Tools for Houses & Businesses (R&D Department)
· Analyzed Energy Supply/Demand Data & extracted Patterns for each Customer

Private Tutor *2013 - 2016*
· Prepared High School and University Students for Exams (Python, MATLAB, Maths, Physics, Greek, Ancient Greek)

PUBLICATIONS

Nikolaos Pantelaios, Nick Nikiforakis, Alexandros Kapravelos. You've Changed: Detecting Malicious Browser Extensions through their Update Deltas. In Proceedings of the ACM Conference on Computer and Communications Security (CCS), 2020.

SECURITY PROJECTS

Favicon Cache Tracking   *2021 - Present*
· Utilized high-level Privilege of Extensions for Favicon Cache Access
· Proved User Tracking Scenarios through unwanted Behavior from Extensions in Chrome and Safari

Extension Tracking & User Privacy   *2021 - Present*
· Categorized User Tracking Methods used by Extensions in the last 8 Years
· Found most prevalent 3rd-party Domains used for Extension Tracking and User Privacy Leakage
· Compared JavaScript Injections in multiple Browsers using Extensions (Chrome, Firefox, Opera, Edge)

Bot Detection in Chrome Webstore   *2018 - Present*
· Developed a Bot Detection System in the Chrome Webstore for Fake Comments & Users in Python

Phishing Pages in the Web   *2018 - 2020*
· Conceptualized Site Similarity System for Phishing Fraud & discovered New Phishing Evasion Techniques

ML/AI PROJECTS

JavaScript Testcase Generation and Bug Detection   *2021 - Present*
· Performed syntactical Analysis in Millions of JavaScript Testcases
· Extracted code-level Features from the newly generated JavaScript
· Trained Javascript Testcases with Recurrent Neural Networks (RNN) to reduce the examined Testcases
· Executed successful Testcases in a Browser Environment for novel Bug Detection and Browser Crashes Discovery

Privacy Leakage in the Web   *2018 - Present*
· Detected Privacy Leakages from DNS & JS features Analysis using Maching Learning Models

Mobile Applications Security   *2018 - 2019*
· Created an Auto-Report & Prevention System for all Mobile Extensions spying on Mobile Numbers using Code Classification Algorithms

Personality Prediction - Speech Recognition   *2016 - 2018*
· Designed Personality Prediction Model achieving state-of-the-art Results using Tensorflow & Keras

HACKPACK

Hacking Group (HackPack)   *2018 - Present*
· Leading Member of the HackPack Community, focused on educational hacking Courses
· Participated in CTF Competitions coding Web and Binary Exploits (XSS, DoS, ROP)
· Developed Custom Exploits for Hackpack CTF and for Learning Purposes including Netcat, SQL Injection and reverse Engineering Challenges

SOFTWARE ENGINEERING PROJECTS

Tensorflow Engine Optimization   *2019*
· Coded Compiler Optimizations on Tensorflow Backend Engine, utilizing CUDA Toolkit & GCC

Steganography Project   *2018 - 2019*

· Encoded Text in Image using C for Teaching Purposes & additional Feedback/Optimization

Oracle Database Build   *2017*

· Created Database from scratch using Java for Car Service, Repair and Distribution Purposes

Mobile Application Development   *2014 - 2015*

· Developed Mobile Applications for Android and iOS in Unity using C#

SKILLS

- Python, GoLang, Javascript, R, C, C++, C#, Java, SQL, PostgreSQL, MongoDB, HTML, CSS
- Hive, Hadoop, Tensorflow, Keras, Theano, Kubernetes, Docker, PyTorch, MATLAB, Linux

LANGUAGES

English (fluent), German (basic), Greek (native)

References available upon request.