

Anwesh Tuladhar

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Education

- **University of South Florida** Tampa, FL
Ph.D in Computer Science; GPA: 4.0 (Member of Tau Beta Pi) January 2016 – Present
- **Kathmandu Engineering College** Kathmandu, Nepal
Bachelor of Electronics and Communication Engineering August 2010 – January 2014

Experience

- **Facebook** Seattle, WA
Software Engineering Intern January 2021 – April 2021
 - Integrated multiple static analysis tools to facilitate cross-language taint-flow analysis which allowed the security engineers to triage issues across remote procedure calls.
- **OPSWAT** Tampa, FL
Fieldwork as Graduate Research Assistant May 2020 – December 2020
 - Developing network access control and security policy enforcement software. Redesigned and developed the module for compliance status tracking of network connected devices yielding significant performance gain (~10x) in query time.
- **University of South Florida** Tampa, FL
Graduate Research and Teaching Assistant Spring 2016 – Present
 - **Transportation Security Research:** Conducted a security evaluation of the devices and applications used in the transportation infrastructure. Devised a systematization framework based on it.
 - **Security Operations Research:** Developed automation and network analysis tools to improve perimeter security. Deployed multiple research honeypots.
 - **Android Security Research:** Developed a language translator from Argus-Jawa (an intermediate language used in [Aman-droid](#)) to Java. The translation was based on heuristics applied to the Argus-Jawa AST and written in Scala.
 - **Teaching Assistant - Graduate Operating System:** Designed a series of projects for students to incrementally build critical components of their own OS.
- **Synopsys Software Integrity** San Francisco, CA
Technical Intern May 2018 – August 2018
 - Designed dataflow tracking for HTML DOM and developed client-side DOM-XSS vulnerability checker for javascript over it.
- **Deerwalk Services** Kathmandu, Nepal
Software Engineer November 2013 – December 2015
 - Developed webservices for medical and financial data analytics using Elasticsearch and MySQL databases.

Projects

- **Compiler Design for an Object Oriented Language:** Developed a compiler (including lexer, parser, dynamic dispatcher, and code generator) for an object oriented language in C using flex/bison. Also implemented the lexer and parser by hand.
- **Twitter Hashtag Generator:** Implemented a sequence-to-sequence language model to generate suitable hashtags for a given tweet using keras.
- **Graph Data Processing:** Implemented and analyzed a generative model for network/graph generation described in the [paper](#) by Sendina-Nadal et al. using NetworkX.
- **VAST Mini-challenge 2017:** Led the team for mini-challenge 1. We developed a tool to process sensor data in Apache Spark and visualize it as a subway map using Processing3 and Tableau. Our team also got an honorable mention for mini-challenge 3.
- **Image recognition using CNN:** Built a convolutional neural network for image recognition using TensorFlow.
- **Yelp Datasets Challenge:** Developed a Spark application using StanfordNLP library to analyse businesses from Yelp dataset based on their user reviews, locations, and user communities.
- **Particle Simulation:** Optimized a simple serial particle simulator using 3 different techniques: OpenMP, MPI, and GPU in the Stampede super computer as a part of Parallel and Distributed Systems course.

Technical Skills

Programming	Java, Scala, C/C++, Python, ML, SQL, bash, \LaTeX , Flex/Bison
Security Tools	Splunk, Wireshark, Nessus, Metasploit, Nmap
Data Analysis & Visualization	Apache Spark, NetworkX, SNAP, Gephi, Processing 3, Tableau
Development Tools	Git, GNU Tools, Maven, IntelliJ, Vim
Machine Learning	Keras, TensorFlow, Weka, Stanford NLP
Databases	ElasticSearch, MongoDB, MySQL, MSSQL