Amala V. Wilson

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OBJECTIVE

MS in CS graduate, with research experience in privacy-preserving AI, seeking software engineering opportunities

EDUCATION

M.S. in Computer Science Dec. 2021
San Jose State University – *San Jose, CA* Graduate GPA: 3.6

B.S. in Computer Engineering May 2016
Purdue University – *West Lafayette, IN*

CERTIFICATIONS

Cisco Security Ninja White Belt, *Cisco* | Certification of Achievement, *Coding Dojo*

TECHNICAL SKILLS

Programming/Scripting Languages: Python, Java, ReactJS, JavaScript, HTML/CSS, PHP, C
Databases: MySQL, MongoDB
Data Science & Machine Learning: Pytorch, Detectron2, Tensorflow, Scikit-learn, Pandas
Server-side: Spring Framework, Node.js, Express.js
Other: AWS, Testrail

WORK EXPERIENCE

Intern, Zact Inc. – *Saratoga, CA* Jan. 2021 – Aug. 2021

- Wrote and tested a Python script to automate workflows in JIRA for software and hardware vulnerabilities tracked by a cloud service provider
- Tested the Zact platform on web and iOS apps by running through different use cases and user scenarios in Testrail
- Researched and compiled relevant information to revamp company website
- Explored compliance auditing tools to automate company's audit requirements

Software Engineer Intern, Cisco Systems – *San Jose, CA* Jun. 2019 – Aug. 2019

- Designed and developed code to provide dynamic and contextual messages to users of Cisco Commerce application
- Reduced cost of storing static content in Content Delivery Network (CDN) servers and improved user experience through faster response time

Student Contractor, Delphi Electronics & Safety Verification Lab – *West Lafayette, IN* 2014 – 2015

- Designed LabView applications that parse large data files from Saint Bus Monitor 2, a Windows-based interface, in real-time to track vehicle performance
- Learned a programming language, C#, during the training session

PROJECTS

Master's Project – Privacy Preserving for Multiple Computer Vision Tasks Fall 2020 & 2021

- Performed systematic review of Dual User-Adaptation (DUA) which is a privacy-preserving deep learning framework for visual recognition (*Manuscript under review*)
- Improved the performance of DUA on unseen data 2-3 times by experimenting with 6 model configurations
- Trained models using FedAvg and FedProx on the MIT Indoor Scenes dataset to compare the performance of DUA with other federated learning frameworks

Comparative Evaluation of Finetuned Faster R-CNN Model on Low-light Images Fall 2019

- Examined the performance of 4 neural networks on low-light images using AWS GPU instances in a team of 5 and as a result, chose Faster R-CNN to further experiment with
- Executed neural network EnlightenGAN on low-light images using AWS 3 GPU instance and fed its enlightened output into Faster R-CNN to compare its results with the results produced by running inference on low-light images
- Analyzed the performance of Faster R-CNN by incorporating it with different combinations of EnlightenGAN and USM (Unsharp Mask) and CLAHE (Contrast Limited Adaptive Histogram Equalization) image filters
- Applied transfer learning to finetune Faster R-CNN on the output images produced by EnlightenGAN for the MS COCO dataset that improved accuracy of Faster R-CNN by approximately 20% on low-light images

Business Context Aware Data Center Monitoring Fall 2019

- Implemented and trained 2 logistic regression models on the GWA-T-12 Bitbrains dataset to learn about business process interruption caused by inadequate management of compute and storage resources in a data center
- Collected, analyzed and displayed local system performance metric data using Elasticsearch, Beats, and Kibana to test the 2 machine learning models; achieved 28% and 98% accuracy for the memory and CPU models, respectively
- Trained and tested a multinomial logistic regression model on MongoDB log data and achieved 69% accuracy