Jinen Setpal
DATA SCIENCE AND CYBERSECURITY

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Education

May 2024 | **Purdue University**
BSc, DATA SCIENCE & CYBERSECURITY · Indiana 📍
First Year, Fall 2021
Major GPA - 4.00 / 4.00
Corporate Partnership: MISO

- Employing logging systems for anomaly detection over contiguous executions.
- Developing a pipeline for realtime evaluation over Azure's ML Suite

Relevant Courses:
Fall 2021 Courses: Object Oriented Programming with Java
Spring 2022 Courses: Binary Exploitation & Reverse Engineering, C Programming

Work Experience

July 2021 | **Teachiq AB / exam.net**
SYSTEM DEVELOPER · Remote 📍
Developed native Linux desktop applications for exam delivery service exam.net.

- Packaged custom security implementations by forking open source xmodmap(.c) utility to a node.js module
- Exploited the assessment kiosk on exam.net's web client.

Publications

2021 *CutLang V2: Advances in a runtime-interpreted analysis description language for HEP data*, Frontiers in Big Data, 4, 27, Dr. Gökhan Ünel, et al.

- Developed CI/CD Scripting w/ Automated Email Delivery using GitHub Actions & SendGrid
- Developed Interpreter Functions through lexical analysis using Flex & Bison (.cpp)

2020 *ArchiMeDe @ DankMemes: A New Model Architecture for Meme Detection*, Proceedings of the Seventh Evaluation Campaign of Natural Language Processing and Speech Tools for Italian. Final Workshop (EVALITA 2020), Jinen Setpal, Gabriele Sarti.

- Achieved .7664 F1-Score on test dataset ($+$.2466 baseline) w/ Video Presentation during final workshop
- Developed multimodal ensemble using transfer learning through AlexNet, DenseNet & ResNet pre-trained networks

Outreach

2021	Special-Interest-Group AI @ Purdue	*Project Manager (x2)*
2021	b01lers CTF @ Purdue	*Team Member*
2021	TEDxYouth @ RNPodar – Blindspots	*Technical Lead*
2021	ACL Year-Round Mentorship	*Mentee*

Projects

2021* **Reproducibility Challenge: Panoptic-Deeplab**

- Developed multiheaded neural architecture for bottom-up panoptic segmentation trained on the cityscapes dataset using Tensorflow with Python.
- Implemented shared encoder with dual ASPP and decoder modules based on Google's Deeplabv3 implementation.
- Built training and evaluation pipelines with loss functions and callbacks as described in the paper.

2021 **Embedded Realtime Semantic Segmentation**

- Embedded DeeplabV3+ with a MobileNetsv3 backbone to Android using Java.
- Established a data conversion pipeline (NV21 -> YUV_420_888 -> JPEG -> Bitmap -> TensorImage), and achieved an inference framerate of $\approx 25 fps$.

2021 **Time-Series Modelling for Outbreak Prediction**

- As part of CERN's The Port Hackathon, predicted $oidium$ outbreaks within wineyards in Germany.
- Achieved test accuracy of 0.995 (± 0.0025) when predicting outbreak risk, trained on data from 2013 - 2020 with a frequency of once per day.

2020 **AatmaNirbhar (Independent) App Innovation Challenge**

- Developed a fully functioning open-source social network using a Firebase backend, for Android and iOS on a Firebase backend.
- Headed the development team of 4 over a period of 5 months.

2020 **Bus Tracking Software for Student Security**

- Developed parent, attendant & driver modules tracking school bus locations & collecting reports on rash driving & student attendance.
- Headed the development team of 15 over a period of 2 years.

2020 **Broken API Vulnerabilities Through Request Scripting**

- Modified requests to payment APIs for e-wallets through Burpsuite.
- Exploit proof-of-concept present here.

Cybersecurity Training

2020	**ECSA**	– EC-Council Certified Security Analyst
2019	**CEH**	– Certified Ethical Hacker

Skills

Programming Languages	Python, C++, Java, Kotlin, Javascript, Bash, Assembly, Arduino, MATLAB, SQL
Frameworks	Tensorflow, Pytorch, scikit-learn, ROOT, Node.js, Vue.js, Electron, Docker, Kubernetes, Sagemaker
Cloud Utilities	CI/CD Scripting, Google Cloud Console (Compute, Networking, Storage), Amazon Web Services (Redshift), Azure Pipeline
Development Utilities	Gradle, Git, Jupyter Notebook, Google Colaboratory, Atom, MariaDB, NoSQL, PostgreSQL