Kollam, Kerala, India
+91 9936596075
s.priyadarshi629@gmail.com
iamsh4shank.github.io/
iamsh4shank

Shashank Priyadarshi

EDUCATION

2023-Ongoing **MSc. in Computer Science**, *Saarland University, Germany*

2019-2023 **B.Tech in Computer Science and Engineering**, *Amrita Vishwa Vidyapeetham*, India
CGPA: 8.59/10

2018 **Sunbeam English School**, Varanasi, U.P., India
Percentage: 92.6%

EXPERIENCE

December 23 - Present **Research Assistant**, *Max Planck Institute for Informatics*
- Currently working on optimizing image resampling for image classification models and how they can affect the overall robustness.

July 23 - August 23 **Academic Research Intern**, *Ben Gurion University, Israel*
- Worked with Dr. Yisroel Mirsky on a project related to Machine Learning funded by Israel Cyber Array.
- Worked on contributing to the ART toolbox (by IBM) with different Membership Inference and Model Extraction attacks such as data-free model extraction and white box membership inference attack.

April 23 - September **Voluntary Research**, *University of Siegen*
- Worked on researching problems based on the overall robustness of the Vision models.
- Working closely with the Ph.D. students on modifying images for better image representations.

November 22 - January 23 **Machine Learning Engineer**, *Aftershoot*
- Currently involved with creating algorithms for **AI-assisted editing tools**.
- Being part of a team, I worked on writing scripts for automating **cropping** and **straightening** using several boundary box experiments by incorporating YOLO, CACNET, and coordinate geometry.

June - September 2022 **Machine Learning Intern**, *Skit.ai*
- Worked on making **Skit Text-to-Speech(TTS)** middleware compatible with Google TTS and Azure TTS by adding features to handle **transliteration**, **contextual num2words**, and so on.
- Generated bench-marking dataset using Polly and Azure APIs to train TTS model.
- Worked on creating the **Kubeflow** pipeline and components for **Language Modeling tuning** for ASR which lead to reduced time in the training and evaluation workflow.

April - August 2022 **Summer Research Intern**, *Zoho Labs*
- Worked on developing a module to detect visual symmetry in textual data for **URL spoofing** by modifying the Levenshtein distance algorithm and Neural Network.
- Worked on creating algorithms for performing operations such as **AND, OR, and NOT** for Sanskrit statements (using **DhatuNet**) similar to WordNet, it can be used in several Sanskrit semantic tasks. Also wrote **APIs** for DhatuNet.

September - November 2021 **Android Engineering Intern**, *The Atom El*
- Worked with the team in the development of the release of Meditation and Fitness app **v1.12** and **v1.13** by adding features such as integration of video lectures, other customizations while meditations, and bug fixes.
- Added the **subscription model** to keep track of the user's subscription for the **premium version**.

May - September 2020 **Google Summer of Code**, *Student Developer, The Mifos Initiative*
- Worked on the Android client app and integrated new features such as **GIS support, notification integration, KYC/onboarding, UI enhancements, localization modification**, and other bugs.
- Involved in the continuous development of the app with the integration of SDK and new UI component.
- Completed the whole documentation

ACHIEVEMENTS

- Selected for 24 days long **BrainHack School 2023, Paris** in the field of Neuroscience, ML, and Neuroinformatics.
- Got honorable mentions for best solo project in HackLah at Devpost Hackathon
- Selected for 1 month long **Ben Gurion summer school** in the field of Data Mining for Business Intelligence and Cybersecurity.

- Selected for 3 weeks long **MaLGa Unige summer school** which covered mathematical portions related to fields such as Computer Vision, Regularization, and Deep Learning.
- Selected for **MLSS 2021 Taipei summer school** based on various topics related to Machine Learning.
- One of the **top 3 contributor** to the **Mifos Android Client**.
- Won **best Digi Hardware Key** and **best Google Cloud** category prizes in Hack-accessible and Mental Health Hackathon organized by Major League Hacking respectively.

TECHNICAL PROJECTS

December 2022 - Ongoing **LM_KG Integration**
Dr. Jayaraj Poroor, Zoho Labs, Zoho Corporation.
Working on analyzing the effect of integrating **Language models** with **Knowledge Graph** to complement the text data, offering better and more structured background knowledge for reasoning. The general approach here is to use the combination of transformers and GNNs for extracting both modalities followed by passing them through **fusion layers**. Last pretraining them using **Masked Language Modeling** and **KG Link Prediction**.

August - November 2022 **EUSML**
Dr. Gilad Gressel, Amrita Center for Wireless Networks and Applications.
The project aimed to create an **AI-assisted tool** to detect **pancreatic cancer**. Here I worked on doing a literature survey for the existing solutions to deal with real-time video scans, performed experiments using models such as **ViT, ResNet, DenseNet**, and other state-of-the-art, and did a brief study on preprocessing techniques used such as **denoising** and **quantile capping**

November 2021 - May 2022 **SpotOn**
As a part of a research project of **amFOSS AI**, we worked on creating a **new attack** based on the integration of **vanilla FGSM** and **attention maps**. The main idea of this attack was to add perturbation only on the area under attention maps so that it will significantly **increase** the attack success rate but will keep the changes unobserved on the attacked image and keep the SSIM low. We inferred that the new attack performed comparable or better(in some cases) as compared to vanilla FGSM, for example in the case of FGSM the ASR was **0.63** but we got the ASR of **0.8837** (under similar conditions).

September 2021 - December 2021 **AmAutolab**
Dr. Gilad Gressel, Amrita Center for Wireless Networks and Applications.
Worked on **automating** the task assignment evaluation using Python scripts with **proper evaluation schemes** and **dynamic problem and score handling**. Problems can be updated and mapped with decided scoring and grading patterns. This is developed over **Autolab by CMU** with configuration changes. **Tech stack** - Python, shell scripting, and YAML.

December 2019- present **Android Client - Mifos**
Android Field operation application based on Mifos X is a robust core banking platform that is developed for field officers using which they process transactions, keep track of their client's data, center records, group details, and manage different types of accounts (loan, savings and recurring) of the client. **Tech stack** used- Android, Kotlin, RxJava. Project Link - `https://github.com/openMF/android-client`

COURSES AND MOOC

April 2021 **Neural Networks and Deep Learning**
Issuing Organization: DeepLearning.AI.
Certificate Link: `https://coursera.org/share/2bffc5b8777c05b9257f13d87740f4a2`

August 2020 **Data-driven Astronomy**
Issuing Organization: Coursera.
Certificate Link: `https://coursera.org/share/44152fa1dc7ae19dc8bb006ec54320b3`

VOLUNTEERING

2021 and 2022 **Google Summer of Code**, *Mentor, The Mifos Initiative*
- Mentored for the Android SDK project and Android Client app for the next release v7 with SDK integrated and new features.
- Worked with other community members to release the SDK with wrappers developed over Fineract 1.5x such that it can be used in other Fineract-based applications.

August 2020 - July 2021 **Google Developer Student Club**, *Lead, Amrita School of Engineering*
- Contributed with other leads in organizing various sessions based on Android Development and web development.
- Lead a project with other core team members to help students to learn the basics of software development and android.

September 2021 **Introduction to AI**
This workshop was held by the amFOSS and Team Bi0s for the school students in the field of web development, AI, Game development, etc. I was responsible to take sessions for Introduction to AI and Machine Learning.

April 2021 **Android Development**

This workshop was held by the placement cell of my college, I was responsible to take sessions for Android Development using Java.

August 2019 - Present **Member and Mentor**, *amFOSS*

- Mentoring my juniors to get them started with open-source contributions and come up with innovative ideas.
- Help manage the community of 80+ members along with organizing various events and leading social media campaigns.

TECHNICAL SKILLS

OS Linux, Windows, MacOS

Languages Python, Java, Kotlin, C, Dart, MongoDB, React, Matlab

Tools Android Studio, TensorBoard, Jupyter Notebook, Anaconda

INTERESTS

Technical Adversarial ML, Computer Vision, AI in Healthcare, NLP, Open Source