Abishek V Ashok

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Research Interests
Computer Security, Practical Secure Systems

Education
Sacred Heart College (Expected Graduation: August 2022)
Bachelor of Science, Computer Application
Majors: Computer Science, Mathematics, and Statistics
Average SGPA: 9.155 / 10
Relevant Courses: Advanced Computer Networks, Operating systems, Cyber Security
(Coursera), Advanced Network Security (Coursera)

Professional Experience
MLH Fellowship at Facebook (May 2021 - Current)
- Working as an MLH Fellow with Facebook's security team on Pysa, a python static analyzer that can detect data flow related security issues.
- Improved coverage of Pysa by adding new models that enables Pysa to detect more types of security vulnerabilities such as Remote Code Execution, Cross Site Request Forgery etc.
- Analyzed various popular python modules such as MSSQL, MySQL, Flask, boto3 etc. for security vulnerabilities and coded models for them in Pysa.
- Compared Pysa with various other static analysis tools such as CodeQL and analyzed various complex projects, such as Zulip and Salt, manually to check for security vulnerabilities, triaged and reported them, and tried to replicate finding the same issues with Pysa.

Student Data Scientist at IQM (May 2021 - Current)
- Created deep learning transformers and models for detecting fake articles (mostly related to U.S. elections) in the real world.
- Led IQM's data acquisition efforts to collect details about current politicians and create models based on the same to rank popularity of candidates in a particular area.

Intern at FOSSASIA (June 2019 – September 2019)
- Lead FOSSASIA's efforts to create a conference badge generator by the name badgeyay. Wrote the entire backend of the app in Python using Flask and integrated it with the frontend written in NodeJS.
- Added 22 features (such as QR code support and badge ID tracking) and fixed 21 bugs in the frontend during the internship.

Google Summer of Code mentor 2018-19, 2019-20
- Mentored Google Summer of Code students who worked for FOSSASIA in the meilix operating system project.
- Defined a roadmap for the students, helped them remove roadblocks, figured out ways to contribute as a team, held routine meetings and accessed their work over the summer.

Other professional experience

- Android Developer Intern at Brew (March 2019 – August 2019)
- Google Code-in mentor 2018-19, 2020-21

Notable achievements

Grand Prize Winner, Google Code-in 2017-18 (Global)
- Won the global programming competition conducted by Google in 2017 competing with 3555 students from 78 countries.
- Most of my work was focused on a lightweight and secure OS for kiosks called "Meilix", conference badge creator "badgeyay", and photo editor "phimpme-android."
- Invited to Google's headquarters in Mountain View to receive my award and meet some of their best engineers.
- I am the first and only person to win this prestigious award from the state of Kerala.

State level winner, Intel Tech Challenge
- Led a team of 3 developing an intelligent parking space monitoring system and got our project shortlisted for the national level of the competition.
- Won at the State level competing with about 7,000 participants.

Other major achievements
- Scholarship recipient (among one of two global) for the Open Source Firmware Conference in 2018.
- 6th globally in Bountiful Open Source Summer programming competition, 2018.
- A+ (highest grade) in state level inter school web design competition, 2019.

Papers published
- *Live exercise repetition counter, Abishek V Ashok, Lattice Machine Learning Journal, Volume-1, Issue-2 (July - September 2020)*. Presented at the Computer Defcon Conference (conducted by the Association of Data Scientists in India). Live prototype featured at SciPy 2020.
- *Predicting when Covid-19 patients shall need artificial respiratory support, Abishek V Ashok, Vigyaan Machine Learning Journal, December 2020*.