Pandu Ranga Reddy Konala

ASSOCIATE SCIENTIST @ THE UNIVERSITY OF WAIKATO · CYBER SECURITY RESEARCHER @ CROW

G-Block, University of Waikato

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Personal Statement

I am deeply fascinated by the field of Cyber Security and have a strong desire to gain knowledge in this area, particularly in understanding the engineering principles and challenges involved. As part of this pursuit, I have acquired extensive knowledge ranging from computer architecture to software engineering principles. I am particularly passionate about working in system security management and wish to direct my career towards the areas of cyber risk management and secure systems architecture design. My domain expertise are **Cyber Security**, **Cloud/Native Systems Architecture Design**

Academic Progress

The University of Waikato　　　　　　　　　　　　　　　　　　　　　　　　*Hamilton, New Zealand*
PhD in Computer Science　　　　　　　　　　　　　　　　　　　　　　　　　　*April 2022 - Current*
- Research Area: Infrastructure as Code Security
- Research Topic: Detecting Security Smells in Software Configuration Scripts

Lancaster University　　　　　　　　　　　　　　　　　　　　　　　　*Lancaster, United Kingdom*
Masters in Cyber Security　　　　　　　　　　　　　　　　　　　　　*September 2019 - September 2020*

Amrita Vishwa Vidyapeetham　　　　　　　　　　　　　　　　　　　　　　　*Coimbatore, India*
Bachelor of Technology in Computer Science and Engineering　　　　　　　　　*June 2015 - April 2019*
- Specialised in Cyber Security

Work Experience

Associate Scientist　　　　　　　　　　　　　　　　　　　　　　　　　*Hamilton, New Zealand*
School of Computing & Mathematical Sciences, The University of Waikato　　　　　*April 2022 - Current*
- My role has supported faculty members and students conducting cybersecurity-related research activities and documentation.

Doctoral Assistant　　　　　　　　　　　　　　　　　　　　　　　　　*Hamilton, New Zealand*
School of Computing & Mathematical Sciences, The University of Waikato　　　　*January 2023 - Current*
- My role has comprehensively supported faculty members and students in conducting academic activities. Specifically, I have assisted with the development and implementation of various academic courses

Software Developer　　　　　　　　　　　　　　　　　　　　　　　　　　　*Lancaster, UK*
Quantum Base　　　　　　　　　　　　　　　　　　　　　　　　　*June 2020 - September 2020*
- My role is to bridge the gap between using quantum PUF's and the day-to-day life IOT devices by designing and implementing a secure systems architecture.

Security Analyst Intern　　　　　　　　　　　　　　　　　　　　　　　　　*Lucknow, India*
Infosec future Pvt Ltd　　　　　　　　　　　　　　　　　　　　　　　*May 2018 - June 2018*
- During the eight week period, I handled website penetration testing, scanning, information gathering and risk analysis using various automated tools as well as manual approach, and have prepared security audit reports for the same.

Redhat System Administrator Intern　　　　　　　　　　　　　　　　　　　*Hyderabad, India*
Complete Open Source Solutions (COSS)　　　　　　　　　　　　　　　　　　　*May 2017*
- During the four week period, I have gained experience in managing and maintaining Red Hat Enterprise Linux systems. My responsibilities have included installation and configuration of new systems, monitoring system performance, ensuring system security, implementing backup and recovery processes, troubleshooting issues, and maintaining system documentation. I have also collaborated effectively with cross-functional teams to ensure seamless integration of systems and applications.

Ethical Hacker Intern　　　　　　　　　　　　　　　　　　　　　　　　　　*Vizag, India*
Star Computers　　　　　　　　　　　　　　　　　　　　　　　　　　　　*May 2016*
- During the four week period, I gained valuable experience performing penetration testing and vulnerability assessments. I successfully conducted various tests and assessments to identify potential vulnerabilities and security risks in our client's systems and applications. Lastly, I have written detailed reports outlining my findings and recommendations for remediation.

Skills

Programming	Python, Java, R, PHP, HTML/CSS, JavaScript, SQL, Nodejs
Operating Systems	Redhat Linux, Kali, Debian, Windows AD
Virtualization Technologies	VMware vSphere, Containers
Cyber Security Tools	Metasploit Framework, Nessus, Burp suite and much more
Miscellaneous	LaTeX(Overleaf/R Markdown), Tableau, Microsoft Office, Git.
Soft Skills	Time Management, Teamwork, Problem-solving, Documentation, Engaging Presentation.

Professional Certifications

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Red Hat Certified Engineer (RHCE)   by Red Hat, License No. 170-138-911 (2017 - 2020)
Red Hat Certified System Administrator (RHCSA)   by Red Hat, License No. 170-138-911 (2017 - 2020)
Certified Ethical Hacker (CEH)   by EC-Council, License No. ECC022209621222 (2016 - 2019)

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Projects

AI for Human Centric Security *PhD Project*
The University of Waikato *April 2022 - Current*
- The AI for Human-Centric Security is a Catalyst project funded by MBIE, New Zealand. The project aims to use AI to aid human security experts in managing security-related configurations in diverse computer environments.

Cryptographically Secure On-Line Identity System *Masters Thesis*
Lancaster University *June 2020 - September 2020*
- This project is funded by Quantum Base and The Royal Society, UK. The Objective of the project is to develop a framework which utilizes a quantum computer generated identities for authentication and validation of devices.
- This project is primarily targeted for resource constrained devices such as IoT and mobile applications.

Secure communication using IPFS with IoT *Under Graduate Thesis*
Amrita Vishwa Vidyapeetham *June 2018 - April 2019*
- This project is funded by Amrita Vishwa Vidyapeetham. The Objective of the project is to use Interplanetary file system protocol for secure point to point communication between the User and an IoT device, where the device can be operated without any use of third party vendor.

Cyber Physical System for safe transport system for LPG *Industry Project*
Amrita Vishwa Vidyapeetham *January 2018 - April 2018*
- This project is funded by Amrita Vishwa Vidyapeetham. The Objective of the project is to use Interplanetary file system protocol for secure point to point communication between the User and an IoT device, where the device can be operated without any use of third party vendor.

Crop Prediction System using Machine Learning algorithm *Industry Project*
Amrita Vishwa Vidyapeetham *June 2017 - December 2017*
- This project is funded by Amrita Vishwa Vidyapeetham. The Objective of the project is to Design and Development a Crop Prediction System using Machine Learning algorithm(K-Means) in which the farmers are helped with a crop recommendation by knowing type of the soil and location, the intended time of sowing and the crop type.

Publications

SoK: Static Configuration Analysis in Infrastructure as Code Scripts *Published*
Research Paper *August 2023*
- IEEE International Conference on Cyber Security and Resilience, 2023, Italy

Access mechanism using inter planetary file system *Published*
Research Paper *April 2019*
- International Journal of Engineering and Technology, Volume 7, No 4, 2018,ISSN: 2227-524X

Securing Data in Cloud- A Physical Cyber System *Published*
Research Paper *December 2017*
- Journal of Computer Science Engineering (ISSN: 2456-1843) Volume-3, Issue-12, December-2017, ISSN-2456-1843

Voluntary Activities

New Zealand Cyber Security Challenge 2022 & 2023 *cybersecuritychallenge.org.nz*

- In 2022 & 2023, I organized a CTF (Capture The Flag) event for high school students, university students, and professionals in the industry across New Zealand. Around 500 individuals participated in this event and learned a lot about cyber security.

E-Hack Workshop

- On March 19, 2016, I organized and carried out a one-day seminar titled "E-Hack" at GITAM University in Bengaluru, India. The focus of the workshop was on ethical hacking.

Cyber Security Workshop

- In February 2016, I organized and led a two-day event at Amrita School of Engineering in India, focused on Ethical Hacking and Cyber Security. The workshop aimed to encourage students from lower income backgrounds to take an interest in the field of cyber security.

Interests

Travel   I also have a keen interest in traveling and exploring different cultures, which has broadened my perspective and allowed me to develop a more nuanced understanding of the world.
Video Games   I always had the gaming gene. I would love to explore various stories the games had to offer.
Swimming   I started swimming when I was 10. Going through submerged things while holding my breath was the most exciting part.