Ravi Prakash

Extended Reality (XR) and Cyber Security Researcher

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WORK / INTERNSHIP

Research Associate
OCT 2024 - Present | **Digital University Kerala**

Working on industrial metaverse network security.

- ➔ Exploring the scope of AI-integrated digital twins for metaverse security.

Tools/Skills: Digital Twins, Cybersecurity, Deep Learning, Project Management.

Technical Intern (Research)
JAN 2024 - JUL 2024 | **Siemens Technology and Services Pvt. Ltd.**

Worked on a multi-domain authentication problem.

- ➔ Exploring various authentication methods and the scope of improvement.
- ➔ **Tools/Skills:** Literature Analysis, Deep Learning, Python

Blockchain (Security Research) Intern [*project*]
FEB 2022 - JUN 2022 | **Kerala Blockchain Academy** | **Certificate**

Worked on Blockchain Attacks & Security under the supervision of Sr. researchers.

- ➔ Analyzed Bitcoin/Ethereum/Hyperledger vulnerabilities from CVEs
- ➔ **Tools/Skills:** Topic Modeling, Machine Learning, Blockchains, Python

Other Roles

- **Teaching Assistant**
  MAR 2023 - OCT 2024 | **Digital University Kerala** | **M.Sc.**
- **Penetration Testing Intern**
  OCT 2021 - DEC 2021 | **Virtually Testing Foundation** | **Badge**
- **Content Analyst**
  JUN 2020 - OCT 2020 | **The Data Tribune**

PUBLICATION / RESEARCH *(last 3 years)*

- ➔ Thomas, T., **Prakash, R.,** Kaushik, A. (2025) Augmented and Virtual Reality: Theory and Practice, Wiley India. 1st Edition. ***(Textbook)***
- ➔ Thomas, T., **Prakash, R.,** Pal, S. (2025) Intrusion Detection in Internet of Medical Things Using Digital Twins—A Review, Computers, Materials & Continua. Volume 84, Issue 3.
- ➔ **Prakash, R.,** Prabhakar, A. (2025) Leveraging Deep Learning for Unobtrusive User Authentication: A Hybrid Approach, IEEE Symposium Series on Computational Intelligence (SSCI)
- ➔ **Prakash, R.,** Thomas, T. (2025) Towards Secure AI-driven Industrial Metaverse with NFT Digital Twins, International Conference on COMmunication Systems and NETworks (COMSNETS)

SKILLS

Programming, Scripting & Markup Languages:

Python, R, C/C++, JavaScript, A-frame, Java, PHP, Golang, Prolog, Assembly x86, Shell Scripting *(bash)*, HTML, CSS, LaTeX

Version Control & Others:

Git, SQL, Biometrics, Nmap, BurpSuite, Cryptography, NLP, Blockchains, Docker, Metasploit, Google Clouds, Linux, Data Structures & OOPs, AI/ML, Data Science, Adobe Suite, WordPress

REVIEWER

- IEEE Open Journal of the Computer Society *(OJCS)*
- Premier Journal of Computer Science *(PJCS)*
- Wiley Digital Library
- IEEE International Conference on Multimedia & Expo *(ICME)* - 2025 & 2026

ATTRIBUTES

- Good Communication
- Fast Learning
- Time Management
- Critical Thinking & Problem Solving
- Teamwork & Leadership

- **Prakash, R.,** Nayar, G.R., Thomas, T. (2023) Security Risk Assessment of Metaverse Based Healthcare Systems Based on Common Vulnerabilities and Exposures (CVE), IEEE International Conference on Recent Advances in Systems Science and Engineering (RASSE)
- Sharma, A., Dutta, M., **Prakash, R.** (2023) Comparative Performance Analysis of ML Algorithms for COVID-19 in India, International Conference on Artificial Intelligence of Things (ICAIoT). ***(Best Paper)***

EDUCATION

Digital University Kerala, Trivandrum — NOV 2022 - PRESENT
*Ph.D. Computer Science (**Immersive Technologies**)*

IIITM-Kerala, Trivandrum — OCT 2020 - JUL 2022
*M.Sc. Computer Science (Cybersecurity Major - **Research Based**)* — ***9.26 GPA***

University of Delhi, New Delhi — JUL 2017 - AUG 2020
*B.Sc. Hons. Computer Science (**First Division - Research Based**)* — ***7.97 CGPA***

Jawahar Navodaya Vidyalaya (Fbd.), Haryana — AUG 2013 - APR 2017
*10th & 12th Grade (**99% in Computer Science**)* — ***88%***

PROJECTS

- **dyPixa** *(link)*
  Maintained during **Hacktoberfest-10** | Aimed to dynamically generate abstract images using Computer Vision, ML, and Sentiment Analysis.
- **SecureAuth-SA** *(link)*
  A secure authentication system consists of a **novel cryptographic mechanism**
- **CaterApp** *(link)*
  A TCP-based **file-sharing utility** that can be accessed via a bash terminal. It can also encrypt files before transmitting, ensuring a secure transfer.

AWARDS AND RECOGNITION

- **Gold Medal** | SNTC Student Competition
  2024 |SocMeta **IEEE ComSoc** | Adaptive Security Protocols for XR and Metaverse
- **Qualified** for **CSI InApp Award** (Round-1)
  APR 2022 | by Computer Society of India (CSI) | AI/ML, Biometrics & Cryptography
- **Second** position in **the Advanced Category of NetScout Cyberathon**
  MAY 2022 | **Won $500** | Developed an Authentication Tool
- **Organizer** of **Encrypt-CTF**
  APR 2019 | Research & Development Team | University of Delhi
- **Other Achievements/Participations**
  - **GATE Qualified** - **92.85th** *(percentile)*
  - Multiple **Coursera** certifications in **Cybersecurity, Data Science, and XR.**
  - **Bug reported** in **Moodle Server**

OTHER CONTRIBUTIONS

- **Peer Learning lead** at **Innovation Club,** DUK
- Founder of **HackClub-DUK**
  Affiliated with HackClub (now **Hack-X**)
  (SEP 2021 -Present)
- Co-founder of Jijeevisha (NGO)

HOBBIES

- Open Source Projects
- Attending tech meetups
- Photo Editing & Podcasts
- Blogging & Public Speaking
- Poetry & Philosophy

LANGUAGES

Hindi (native),
English (C1 Proficiency, DET 135),
Urdu (basic)

PORTFOLIO WEBSITE

I'm up for any new metaverse, XR, or cybersecurity project.
(contact links on portfolio)

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