


PRADEEP SINGH

Cybersecurity Enthusiast | Educator | Academic Lab Professional

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Dehradun, Uttarakhand

Academic Profile

Cybersecurity researcher and educator with 8+ years at UPES Dehradun, and Founding Member of the Centre of Excellence for Cybersecurity & AI. Experienced in guiding research across problem formulation, simulation, and manuscript writing — with a focus on network security, ethical hacking, AI-driven threat detection, digital forensics, and OSINT. My mentoring approach is practical: helping scholars build research that is technically sound and publication-ready across diverse cybersecurity domains.

Academic & Professional Experience

Senior Lab Assistant — Centre of Excellence for Cybersecurity & AI

University of Petroleum & Energy Studies (UPES), Dehradun *May 2023 – Present*

- Manage cybersecurity lab operations for the Centre of Excellence, supporting faculty-led research, student practicals, and curriculum delivery across core security domains.
- Actively work on bridging the gap between academic curriculum and industry practice — engaging with cybersecurity companies, supporting MoU initiatives, and connecting students with real-world professional mentors and live-project opportunities.
- Design and deliver hands-on sessions in VAPT, Digital Forensics, Network Security, OSINT, and Information Security, with focus on building genuine understanding rather than tool familiarity alone.
- Mentor students on career pathways in cybersecurity, guiding them on tools, certifications, and practical skill-building aligned with industry expectations.

Senior Lab Assistant — Cybersecurity & Forensics Lab (*Founding Member*)

University of Petroleum & Energy Studies (UPES), Dehradun *Dec 2016 – May 2023*

- Established the Cybersecurity & Forensics Lab from the ground up — infrastructure planning, tool procurement, lab manual development, and day-to-day operations.
- Delivered **6 core practical lab subjects** over 6+ years: IT & Network Security, VAPT, IT System Security, Application Security, Digital Forensics, and Information Security & Cyber Security (ITCS).
- Supported **100+ students annually** in hands-on lab work; regularly collaborated with faculty on assessment design, practical vivas, and syllabus alignment.
- Guided students through cybersecurity tools including Kali Linux, Wireshark, Autopsy, FTK Imager, EnCase, Volatility, and OSINT frameworks — always focusing on the reasoning behind the tools, not just the steps.
- Attended IBM Teach-the-Trainer workshops on IT Network Security and Digital Forensics; applied that learning directly to strengthen lab pedagogy and student outcomes.

Areas of Teaching Expertise

Digital Forensics	File system analysis, memory forensics, disk imaging, evidence acquisition, chain of custody, forensic reporting. Tools: Autopsy, FTK Imager, EnCase, Volatility, LogiCube Falcon.
Network Security	Packet capture and analysis, IDS/IPS configuration, firewall setup, ARP/DNS attack simulation. Tools: Wireshark, Snort, Suricata, pfSense.
VAPT	Vulnerability assessment methodology, penetration testing workflow, OWASP Top 10, web application testing. Tools: Nessus, Kali Linux, Burp Suite, OpenVAS, DVWA.
Information Security & Cyber Security (ITCS)	Core security principles, CIA Triad, authentication, access control, threat landscape — full lab delivery independently managed.
OSINT	Open-source intelligence gathering, footprinting, reconnaissance techniques, digital investigation basics. Tools: Shodan, TheHarvester, OSINT Framework, SET.
Cyber Awareness	Security fundamentals with emphasis on curiosity and critical thinking — helping students see that asking the right question matters more than memorising the right answer.

Research & Publications

Book (Co-author):

Practical Digital Forensics: A Guide for Windows and Linux Users

Publisher: Bentham Books **Year:** 2024 **ISBN (Online):** 978-981-5305-57-9

Co-authors: Dr. Akashdeep Bhardwaj (UPES), Dr. Ajay Prasad

Contributed the practical lab-based chapters and tool demonstrations — drawn directly from real lab experience at UPES.

Dissertation (MBA — Operations Management):

Total Quality Management Framework for Excellence in University Computer Lab Operations

Mentor: Dr. Akashdeep Bhardwaj, Professor & Head of Cybersecurity, UPES Dehradun.

Dissertation (M.Sc. — Cyber Security):

Identifying Vulnerabilities in Educational Institution Websites of Uttarakhand State

Mentor: Dr. Jeetendra Pande, Director, School of Computer Sciences & IT, UOU Haldwani.

Conducted security assessment of Uttarakhand educational websites using Kali Linux and open-source tools; documented vulnerabilities and proposed practical mitigation strategies.

Educational Qualifications

MBA — Operations Management	<i>Jan 2023 – Nov 2025</i>
University of Petroleum & Energy Studies (UPES), Dehradun, Uttarakhand	
M.Sc. — Cyber Security	<i>Jan 2022 – Dec 2023</i>
Uttarakhand Open University, Haldwani (Nainital), Uttarakhand	
B.Sc. — Information Technology	<i>Jul 2011 – Jul 2014</i>
Institute of Technology & Management, Dehradun (HNB Garhwal Central University)	74.18%
Senior Secondary — Class XII	72.8%
Govt. Senior Secondary School, Jharag Nakrari, Jubbal, Shimla (Himachal Pradesh)	
Secondary — Class X	69.57%
Govt. Senior Secondary School, Jharag Nakrari, Jubbal, Shimla (Himachal Pradesh)	

Certifications & Professional Development

- **Certified in Cybersecurity (CC)** — (ISC)² *Credential: 37496ec3-2082-4319-beb1-405eb69a7272*
- **Certified Ethical Hacker (CEH)** — NPTEL *Credential: NPTEL22CS13S23310231*
- **CCNA Cybersecurity Operations** — Cisco Networking Academy *July 2018*

- **Linux Essentials Instructor Training** — Cisco Networking Academy *July 2018*
- **Teach the Trainer — IT Network Security** — IBM Innovation Centre for Education (ICE) *IBM-SU_WPP_07/23_0005*
- **Teach the Trainer — Digital Forensics** — IBM ICE *IBM-SU_WPP_01/22_0002 | April 2021*
- **Teach the Trainer — Ethical Hacking & Penetration Testing** — IBM ICE, UPES *April 2021*
- **Ethical Hacking Certification** — IIT Kharagpur, SWAYAM (MoE, Govt. of India) *Jan-Apr 2022*
- **IT Application & Security** — IBM ICE *IBM-SU_WPP_12/23_0003*

References

Name	Designation	Organization	Contact
Dr. Akashdeep Bhardwaj	Professor & Head, Cybersecurity	UPES Dehradun	9873276660
Dr. Keshav Kaushik	Associate Professor	Sharda University	9466626434
Dr. Amitava Choudhury	Assistant Professor	PDEU	8902691510