



Strategy and Synergy for Security

SOCIETY FOR ELECTRONIC TRANSACTIONS AND SECURITY (SETS)

**MGR Knowledge City, CIT Campus, Taramani,
Chennai - 600 113, Tamil Nadu, India**

Advertisement No. SETS/Chn/Rec/2021-22/05 Date: 8th February 2022

Society for Electronic Transactions and Security [SETS] is a Society under Societies Registration Act, XXI of 1860, dedicated to carry-out Research and Development in the field of Information Security focusing on the key verticals, namely, Cryptology and Computing, Hardware Security, Quantum Security and Network Security.

SETS is looking for the appointment of **Scientists** with proven R&D experience (Two Scientists at Stage 10 and Four Scientists at Stage 9 to work in the challenging areas of Information Security. The positions are temporary but likely to continue as per the Rules of the Society. The initial appointment will be made for a period of five years, on contract basis, with probation of one year.

The description of positions, detailed requirements for eligibility to apply for the positions are given below:

Stage 9 (Four Positions)

SETS is looking for Candidates who have R&D experience in Information security domain. Successful candidates will carry out R&D in **Information security**, by executing projects, publishing research findings, applying for patents and knowledge dissemination activities. Eligibility criteria is tabulated below:

Item	Essential	Desirable
Educational qualification	B.E./ B.Tech. with 60% or above marks or equivalent CGPA in Electronics and Communication/ Computer Science and Engineering/ Information Technology/ Information Systems OR M.Sc. with 60% or above marks or equivalent CGPA in Computer Science/ Mathematics/ Statistics	M. E. / M. Tech. / Ph. D. (Engineering) in Electronics and Communication/ Computer Science and Engineering/ Embedded Systems / VLSI Design/ Information Security/ Signal Processing OR Ph.D. in Mathematics/ Statistics/ Electronics and Communication/ Computer Science/ Information Security/ Quantum Computing and Communication

Work Experience Required

Candidates should have Solid foundations in Information Security, Cryptography, and Network Security and Solid Knowledge in cryptographic standards, communication protocols, security standards and vulnerability analysis, API security Development, Coding experience for Hardware/ Software solutions and field deployment of R&D outcomes in Cyber Security, publications in reputed journals or conferences) in the following areas:

- Cryptology and Post Quantum Cryptography -- (Discrete Mathematics, Hands on experience with crypto systems implementation: encryption and decryption Algorithms like AES, 3DES, GRE, IKE, MD5, SHA, 3DES, NIST short-listed PQC Algorithms, Zero Knowledge proof etc.)
- Hardware Security (Side Channel Analysis, Physically Unclonable Functions, Hardware Trojan Detection, hardware security modules,
- Quantum Network Security (with focus on Key distillation Engines for QKD, QRNG, Quantum Optics etc.)
- AI for Cyber Security (Machine Learning and Cyber Security Interplay, AI based cyber security solutions for detecting zero-day attacks, Malware/ Ransomware detection)
- Network Security (Embedded Systems/ IOT/ IIOT security, Blockchain for cyber security, CA Software, Web application security, Identity management, Security Assurance, Zero Trust systems)

Desirable Skill Sets

Programming in C / C++ / Python / VHDL / Verilog/ MATLAB Parallel programming using OPENMP / MPI / CUDA Programming models Strong analytical and problem-solving skills:

- FPGA implementation flow; related tools; Knowledge of FPGA realization and control software
- Cryptographic Algorithms, Security protocols, Post Quantum Cryptography
- Knowledge in Side Channel Analysis and fault injection attacks
- Recognized industry certifications like CISSP, CEH, OSCP, CSSLP, GIAC etc. are added advantage,
- Machine Learning/ Deep Learning Packages, Cyber Security solutions such as VPN, UTM, CA software, IDS/ IPS, SOC, SOAR, Next Generation Firewalls
- Cyber Security Standards, secure coding, security auditing, Vulnerability analysis
- Android and IOS Security
- Knowledge in using Cyber Security tools such as Wireshark, Metasploit, TCPDump, NMap, Burp Suite, Splunk, Tor, Snort, NAGIOS, ACUNETEX, Antivirus tools

Stage 10 (Two Positions)

SETS is looking for Candidates with proven R&D experience in Information security domain. Successful candidates will carry out R&D in **Information security**, by executing projects, publishing research findings, applying for patents and knowledge dissemination activities. Eligibility criteria is tabulated below:

Item	Essential	Desirable
Educational qualification	B.E. / B.Tech. with 60% or above marks or equivalent CGPA in Electronics and Communication/ Computer Science and Engineering/ Information Technology/ Information Systems OR M.Sc. with 60% or above marks or equivalent CGPA in Computer Science/ Mathematics/ Statistics	M. E./ M. Tech./ Ph. D. (Engineering) in Electronics and Communication/ Computer Science and Engineering/ Embedded Systems/ VLSI Design/ Information Security/ Signal Processing OR Ph.D. in Mathematics/ Statistics/ Electronics and Communication/ Computer Science/ Information Security/ Quantum Computing and Communication

Work Experience Required

- Candidates should possess Research & Development experience and Solid foundations in cryptography, information security and network security.
- Must have Lead R&D projects as Investigator; designed and field deployed cyber security solutions/ products; Prepared and Implemented R&D Proposals; Papers published in high impact journals and conferences which are widely cited; Applied for/ obtained patents in at least one of the following:
 - Cryptology including Post Quantum Cryptography
 - Quantum Network Security (Quantum Information, Quantum Cryptography QKD, QRNG, Quantum Networks implementation experience), FPGA based design and implementation of cyber security solutions
 - AI for Cyber Security (AI/Machine Learning and Cyber Security Interplay, AI based solutions for network security, Differential Privacy)
 - Network Security (Blockchain for Cyber Security, Malware/ Ransomware Analysis, IOT and 5G Security, Cloud Security PKI Infrastructure/ CA software)

Desirable Skill Sets

- Strong analytical and problem-solving skills
- Programming in C / C++ / Python/ VHDL/ Verilog, MATLAB, Parallel programming expertise using OPENMP / MPI / CUDA Programming models
- Deep Learning/ Machine Learning Tools
- Knowledge on Cyber Security Standards such as ISO 27001/2, NIST, ISO 15408, ANSI / IEC 62443, HIPAA, ISO/IEC 27032, FIPS 140-2/3

A. Remuneration (Rs.) per month, Maximum Age and Work Experience

Stage	Total Remuneration per month approximately (Rs.)	Maximum age as on Last Date for the submission of Application	Work Experience
9	Rs. 1,20,300/- Approximate in the basic of Rs.67,700/- (Equivalent to level 11 of VII CPC)	35	4 Years
10	Rs.1,38,500/- Approximate in the basic of Rs.78,800/- (Equivalent to level 12 of VII CPC)	40	8 Years

B. Equivalent Work Experience for Higher Qualifications

In case of candidates with higher qualification, equivalent work experience in lieu of higher degree is as follows:

- 2 years for Master's degree in Engineering & Technology
- 3 years for Doctorate in Mathematics/Statistics
- 4 years for Doctorate in Engineering & Technology

C. Application Procedure:

1. Candidates are advised to go through this advertisement carefully in detail for determining their eligibility as per laid down criteria for the post.
2. **Only applications received through ONLINE submission by visiting SETS website [www.setsindia.in/careers](https://setsindia.in/careers) will be considered.** Submission of online applications will open at **10:00 AM on 8th Feb 2022 and close at 6:00 PM on 10th March 2022.**

A non-refundable application fee of Rs. 700/- (Rupees Seven Hundred Only) through the on-line payment mode to be remitted to the SETS bank account, details given below:

Name of Beneficiary/ Account holder: SETS, Chennai

Beneficiary Bank: Indian Bank

Branch Name: Lattice Bridge Road, Chennai 600 041

Account No.: 430969098 IFSC: IDIB000L006

Transaction details towards proof of payment to be furnished in the application form (screenshot of payment of the application fee to be uploaded i.e., UTR No. & date).

3. Candidates belonging to SC/ST/PWD Category & Female applicants need to pay Rs 350/- (Rupees three hundred and fifty only) as a non-refundable application fee.
4. Candidates may please note that application fee paid through any other mode like cheque, DD or cash will not be accepted towards payment of application fee.
5. SETS will not be responsible in case of incomplete transactions during the online payment process. Only those applications with proper fee payment/exemption details will be considered.
6. Application fee once paid shall not be refunded under any circumstances.
7. Candidates who apply for more than one position, should submit separate applications for each position and remit the application fee for each position separately.
8. Candidates are requested to attach the following supporting documents:
 - a) Scanned copy of Personal Particulars form (pdf format) duly filled and signed. The Personal Particulars form is available at SETS homepage <https://setsindia.in/careers>
 - b) Scanned copies of academic certificates (PDF document)
 - c) Proof of payment
9. The last date for submitting the applications via Google Form/ Online submission is **10th March, 2022 (6 PM).**
10. Shortlisted candidates would be required to attend a written test and/ or Interview at SETS, Chennai. The date and time of written test/interview will be intimated to the shortlisted candidates by email.
11. Applicants working in Central Government or State Government, or Autonomous Institutions or Public Sector Organizations must send their applications through proper channel or produce No Objection Certificate (NOC) for attending Interview from their respective organization.
12. Applicants belonging to SC/ST/OBC/PH category shall be eligible for age relaxation as per Government of India Rules.
13. In case of any difficulty with regard to online submission of form, candidate can send their queries to the email id : rec22-01-scientist9@setsindia.net, rec22-02-scientist10@setsindia.net.

Terms and Conditions:

1. The shortlisted candidates shall be required to bring all their original testimonials for verification on the interview day.
2. No TA/DA will be given to candidates appearing for interview.
3. The prescribed (essential) qualifications are minimum and mere possession of the same does not entitle the candidate to be called for the written test and/or interview. The decision of SETS in all matters relating to eligibility, acceptance or rejection of the applications, cancellation of advertisement and filling up or not filling up of post will be final and no inquiry or correspondence will be entertained in this matter
4. SETS reserve the right to increase the minimum eligibility criteria/cut off limits, at its discretion.
5. Number of vacancies may increase/decrease depending upon SETS requirements and such changes will be made by SETS without any notice.
6. Incomplete applications or applications received without requisite certificates of qualification and experience and applications received after the due date will summarily be rejected.
7. SETS reserves the right to cancel or introduce any examination/ Personal Interview/ Other Selection process. SETS also reserves the right to cancel/ restrict/ curtail/ enlarge the recruitment process and/or the selection process without any notice and without assigning any reasons thereof.
8. All communications will *be* made by SETS to the applicant's E-Mail ID provided by the applicant in their application. Candidates are advised to also check their e-mail Spam folder for any updates.
9. Candidates are advised to visit SETS website regularly for notices/ information. Corrigendum/ Extension/ Updates etc., if any, shall be published in SETS website (www.setsindia.in) only.