

## **Call for Job Applications**

### **for the Privacy Preserving Data Processing and Exchange (P3DX) Project**

Institution: International Institute of Information Technology Bangalore (**IIIT-B**)

Project Component: **Homomorphic Encryption for Privacy-Preserving Applications**

Duration: **1 Year** (Extendable to 3 years based on project requirements and performance)

Application Deadline: **November 1, 2025**

Contact: **Prof. Srinivas Vivek**

### **Project Overview**

The P3DX project addresses a critical gap in Digital Public Infrastructure (DPI) by enabling the use of sensitive and personal data for public good without compromising privacy or security. This component of the project focuses on the use of Homomorphic Encryption (HE/FHE/SHE) technologies for privacy-preserving applications for DPI.

### **Available Positions**

#### **1. Senior Research Associate**

**Contract:** 1 year fixed-term, extendable up to 3 years

**Salary:** As per IIIT-B norms

#### **Key Responsibilities:**

- Lead research in Fully/Somewhat Homomorphic Encryption (F/SHE) schemes
- Develop and implement privacy-preserving protocols for DPI applications
- Investigate suitability of existing F/SHE schemes for real-world deployment
- Integrate homomorphic encryption solutions with P3DX Secure Compute Layer
- Publish research findings in top-tier conferences and journals
- Mentor junior researchers, research interns, and software developers

#### **Eligibility Criteria:**

- Education: Post-doc/Ph.D./Masters in Computer Science, Cryptography, Mathematics, or closely related field
- Experience: At least 3 years of post-qualification research experience
- Skills:
  - Strong expertise in cryptography. Expertise in homomorphic encryption is desirable
  - Proficiency in programming languages (Python/ C++/ Rust)
  - Experience with F/SHE libraries (SEAL, HELib, PALISADE, TFHE, etc.) is desirable
  - Excellent problem-solving, communication, and project management skills.
  - Ability to work independently and in multidisciplinary teams.

#### **2. Research Associate**

**Contract:** 1 year fixed-term, extendable up to 3 years

**Salary:** As per IIIT-B norms

#### **Key Responsibilities:**

- Support research activities in homomorphic encryption implementations
- Develop proof-of-concept privacy-preserving implementations using open-source F/SHE schemes
- Assist in performance benchmarking and optimization studies
- Contribute to documentation and technical reports
- Support senior researchers in experimental design and execution and work with software developers

**Eligibility Criteria:**

- Education: B.Tech./Masters in Computer Science, Information Technology, or related field
- Experience: 1-3 years of research or industry experience
- Skills:
  - Strong mathematical and analytical background
  - Good understanding of cryptographic primitives is desirable
  - Programming experience in Python/ C++/ Rust
  - Excellent problem-solving, communication, and project management skills.
  - Ability to work independently and in multidisciplinary teams.

### 3. Software Developer

**Contract:** 1 year fixed-term, extendable up to 3 years

**Salary:** Negotiable

**Key Responsibilities:**

- Develop and maintain software systems for homomorphic encryption and its application to privacy-preserving DPI applications
- Build APIs and interfaces for P3DX Secure Compute Layer
- Implement performance optimizations for FHE computations
- Develop testing frameworks and automated deployment pipelines
- Create documentation and user guides for developed systems
- Collaborate with research team on system architecture design
- Ability to work in multidisciplinary teams

**Eligibility Criteria:**

- Education: B.Tech/M.Tech in Computer Science, Software Engineering, or related field
- Experience: At least 3 years of software development experience
- Skills:
  - Strong programming skills in Python/ Java/ C++/ Rust
  - Experience with cloud platforms (AWS, Azure, GCP)
  - Knowledge of software engineering best practices and design patterns
  - Experience with RESTful APIs and microservices architecture
  - Familiarity with containerization (Docker, Kubernetes)

**Desirable Qualifications:**

- Experience with cryptographic libraries and implementations
- Knowledge of distributed systems and high-performance computing
- Familiarity with DevOps practices and CI/CD pipelines
- Experience with database systems and data pipeline development

#### 4. **Research Intern**

**Contract:** 6 months fixed-term, extendable up to 1 year

**Salary:** As per IIIT-B norms

**Key Responsibilities:**

- Assist in literature review and survey of homomorphic encryption schemes
- Support experimental implementations and performance evaluations
- Help with data collection and analysis for research studies
- Contribute to technical documentation and report preparation
- Learn and apply privacy-preserving computation techniques

**Eligibility Criteria:**

- Education: B.Tech/M.Tech students (final year) or recent graduates
- Experience: Fresh graduates or students with strong academic record
- Skills:
  - Solid academic background in computer science, mathematics, or related field
  - Strong mathematical, analytical, and problem-solving abilities.
  - Programming skills in Python/ C++/ Rust
  - Interest in cryptography and privacy-preserving technologies
  - Strong analytical and problem-solving abilities
  - Good written and verbal communication skills
  - Ability to work in multidisciplinary teams

**Desirable Qualifications:**

- Coursework in cryptography or information security
- Experience with research projects or internships
- Familiarity with machine learning frameworks

#### 5. **Administrative Staff (Project Operations Manager)**

**Contract:** 1 year fixed-term, extendable up to 3 years

**Salary:** As per IIIT-B norms

**Key Responsibilities:**

- Support project management and coordination activities
- Assist in preparing research grant proposal to various funding agencies, including budget management
- Coordinate with various stakeholders across different organizations
- Prepare quarterly and annual project progress reports
- Manage procurement processes as per GFR rules and regulations
- Handle vendor management and administrative coordination
- Support team lifecycle management (recruitment, onboarding, etc.)

**Eligibility Criteria:**

- Education: Bachelor's/Master's degree in any discipline
- Experience: 2+ years in project administration or management, preferably in a senior role

- Skills:

- Experience with grant proposal writing and implementation
- Knowledge of GFR rules and government procurement processes
- Strong organizational and communication skills
- Proficiency in MS Office suite (Excel, Word, PowerPoint)
- Attention to detail and ability to work independently

Desirable Qualifications:

- Experience in academic project administration
- Knowledge of research funding mechanisms
- Experience in HR activities and team management
- Familiarity with financial reporting and budget tracking

### **Application Process**

**Required Documents for Technical Roles:**

1. Updated Curriculum Vitae highlighting:
  - Educational background and academic achievements
  - Research/industry experience and key projects
  - Publications and technical contributions
  - Programming languages and technical skills
2. Academic Transcripts (for all degrees)
3. Contact Details of at least two professional referees

**Required Documents for Administrative Roles:**

1. Updated Curriculum Vitae highlighting:
  - Educational background and academic achievements
  - Prior work experience and key projects
2. Academic Transcripts (for all degrees)

**Application Submission:**

- Email: **srinivas.vivek@iiitb.ac.in**
- Subject Line: **"P3DX Job Application - [Position Name] - [Your Name]"**
- Application Deadline: **November 1, 2025**

### **About IIIT Bangalore**

The International Institute of Information Technology Bangalore is a premier research-driven institution known for its cutting-edge contributions to technology and society. The Institute provides:

- State-of-the-art research facilities and computational resources

- Collaborative environment with leading researchers
- Access to high-performance computing clusters
- Strong industry partnerships and networking opportunities

### **Contact Information**

Prof. Srinivas Vivek

Email: [srinivas.vivek@iiitb.ac.in](mailto:srinivas.vivek@iiitb.ac.in)

### **Important Notes:**

- All positions are based in Bengaluru, India
- The institute reserves the right to modify or cancel positions based on project requirements
- Only shortlisted candidates will be contacted for interviews