Anjan Roy

Software Engineer @ Avail Project; PhD in Applied Cryptography @ Radboud University, The Netherlands

---

Objective :

To work in an environment that provides high standards of intellect, professionalism and moral ethics, solve problems that helps us in understanding mysteries of the nature, be part of a team that works towards growth of society and enhance my skill sets while adopting newer methodologies.

Email : hello@itzmeanjan.in
Website : https://itzmeanjan.in
Github: https://github.com/itzmeanjan

Gender : Male
Nationality : Indian

Experience :

Engineering @ Explorations Team, Avail Project, Dubai [December, 2025 – Present]

- Handling both research and software development, in the intersection of blockchain scaling, decentralization and privacy.

PhD in Applied Cryptography @ Radboud University, The Netherlands [September, 2025 – Present]

- Supervised by Prof. Joan Daemen and co-supervised by Dr. Gilles Van Assche.
- Working on design and implementation of symmetric-key and post-quantum cryptography.

Senior Cryptography Engineer @ CRC, TII, Abu Dhabi [June, 2023 – May, 2025]

- Led development, testing and release of the side-channel resistant light-weight symmetric key cryptography library in `C`.
- Used bit-interleaving with `ARM NEON` ISA, achieving >30% throughput boost over baseline.
- Used `AVX, ARM NEON` for vectorized Ascon, SHA3 and TurboSHAKE implementation in C, for use in PQC schemes.
- Developed side-channel-resistant, constant-time open-source libraries in `C++` for symmetric and post-quantum schemes.
- Developed fastest known LWE -based Private Information Retrieval library in `Rust`.
- Offloaded LWE -based PIR Server-Setup Phase to GPU, using `Vulkan Compute`, achieving 60x performance boost.

Blockchain Engineer @ Polygon Labs (pka Matic Network) [July, 2020 - May, 2023]

- Implemented symmetric, asymmetric cryptographic primitives in zkSTARK -based Miden VM using `WASM` like assembly.
- Fastest Merklization with Blake3 and Rescue Prime hash functions, using `SYCL` and `OpenCL`, for a wide range of targets.
- Helped in building light-client for KZG commitment-based Data Availability blockchain Avail, using `Rust`.
- Wrote and maintained `Solidity` contracts, powering L1 <-> L2 asset transfer - secured > $7B back then.
- Developed simple and reliable micro-service based cross-blockchain transaction life-cycle tracker, in `Go`.
- Designed and developed fast-finality, cross-blockchain, trusted asset transfer bridge for ecosystem project, in `Go`.

Freelance Developer [July, 2018 - June, 2020]

- Wrote custom `ERC20` contract (with locking, staking) for leading marketplace.
- Reduced latency by 53% after introducing `Memcached`, `Redis` in existing service.
- Built JSON-RPC/ REST services with `ExpressJS`, `PostgreSQL`.
- Helped researcher explore large dataset using `Matplotlib`, `Seaborn`, `Numpy`.
- Helped client target large user base by building multi-platform app in `Flutter`.

Academics :

Course Name	University	Year of Passing	CGPA
M.Sc. (Computer Science)	Visva-Bharati, Santiniketan, India	2020	8.63
B.Sc. (Computer Science)	Visva-Bharati, Santiniketan, India	2018	7.81

Interest :

Post-Quantum Cryptography, Light-Weight Cryptography, Privacy Preserving Computing and Performance Optimization of Cryptographic Schemes on a wide range of architectures including GPU.

Skills :

Responsibility, Patience, Diligence