Srinidhi Nagendra — Résumé

hello@srinidhin.com • www.srinidhin.com • zeu5

Experience

- **MPI-SWS** — **Kaiserslautern, Germany**
  Postdoctoral Researcher — *Nov 2024–Ongoing*
  - Working on building a scalable general purpose Java model checker - jmc.mpi-sws.org
- **Amazon Web Services** — **Paris, France**
  Applied Scientist Intern — *June 2024–August 2024*
  - Building code synthesis tools using LLMs to address reliability concerns in S3. (Programming Languages - Python, Java)
- **IRIF** — **Paris, France**
  Researcher — *Sept 2021–Nov 2024*
  - Working on developing new automated reasoning techniques to ensure reliability of distributed system implementations.
- **Unacademy** — **Bangalore**
  Software Development/Reliability Engineer — *May 2018–July 2018*
  - Built CI/CD pipelines for new services using Terraform and Ansible to deploy to AWS.
  - Built platform libraries in Go to standardize code structure across the organization.
- **BookMyShow (Bigtree Entertainment)** — **Bangalore**
  Software developer — *Sept 2016–April 2018*
  - Backend feature development, site reliability engineering for movie ticketing service (Go, Python, JavaScript, C#, Docker, Ansible)
- **Zoho** — **Chennai**
  Member of Technical Staff — *May 2016–Sept 2016*
  Web development for interactive visualizations - using Leaflet JS, Mapbox, D3, Peg JS.

Education

- **Universite Paris Cite (IRIF), Chennai Mathematical Institute** — **Paris, Chennai**
  PhD, Automated Testing of Distributed Protocol Implementations — *2020–2024*
  Advised by **Constantin Enea (LIX, Ecole Polytechnique), Mandayam Srivas (CMI)**
- **Chennai Mathematical Institute** — **Chennai**
  M.Sc. Computer Science, Graduated with a Medal of Excellence — *2018–2020*
- **Amrita University** — **Bangalore**
  B.Tech Computer Science and Engineering — *2012–2016*

Publications

- **A Domain Specific Language for Testing Consensus Implementations**
  NETYS 2024
  Novel language to describe unit tests for distributed programs to constrain the space of executions
- **Reward Augmentation in Reinforcement Learning for Testing Distributed Systems**
  OOPSLA 2024
  New technique to explore distributed system state space using reinforcement learning
- **Model-guided Fuzzing of Distributed Systems**
  OOPSLA 2025
  Using formal models to guide the fuzzing of distributed systems

- **Optimal Concolic Dynamic Partial Order Reduction**
  CONCUR 2025
  Extending dynamic partial order reduction to non deterministic programs using concolic execution
- **From Specifications to Assertions: LLM-Assisted on-chip protocol implementation testing**
  Under Submission
  Synthesizing assertions for hardware protocol implementations from natural language specifications using LLMs

Skills and Technologies

- **Programming languages** - Java, C, Rust, Golang, Python
- **Formal methods** - TLA+, Ivy
- **Distributed protocols** - Experience building and model checking - Raft, Tendermint, PBFT, Etcd
- **Site Reliability Engineering** - Terraform, Kubernetes, Helm charts, Docker, Ansible, Jenkins Pipelines