

# KAMAL KUMAR MUKIRI

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Bangalore, India

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## Objective

Highly skilled software professional with 16 years of experience in system programming, network security, and embedded systems. Passionate about providing corporate training in C, C++, Rust, Python, and Linux system programming. Seeking to deliver impactful and customized training programs, helping professionals and organizations upgrade their technical knowledge and skills.

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## Skills

- **Programming Languages** : Expert in C, C++, Python and Rust
- **System Programming** : Linux
- **Networking** : TCP/IP L3 and L4 layer protocols
- **Application Protocols** : Diameter, CIFS, J2735 V2X
- **Cybersecurity** : IDSM, IDSR, AUTOSAR security standards
- **Hardware** : Arduino, Raspberry Pi, STM32L476RG, ESP8266

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## Tools & Technologies

- **Cybersecurity Tools** : Coverity, PC-lint, Source Monitor, MISRA-C
- **Debugging Tools** : GDB, ptrace, nmap, tcpdump, Valgrind
- **S/W development Tools** : Visual Studio, Pycharm, Source Insight, Eclipse
- **Cloud Tools** : Docker, Kubernetes
- **Embedded & IoT** : IoT, V2X technology and security, FreeRTOS

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## Professional Experience

### Freelancer & Trainer

#### Apt Computing Labs | Aug 2024 – Present

- Providing corporate training:
  - C, C++ Programming:
    - **Designing Systems** (Using UML Diagrams), **Coding** (Programming Concepts), **Testing** (GTest, Valgrind, Helgrind, GCov), **Debugging**: GDB, Strace, WriteShark and **Secure Coding**.
  - Rust Programming:
    - **Designing Systems** (Using UML Diagrams), **Coding** (Programming Concepts), **Testing** (Cargo test, doc, coverage), **Debugging**.
  - Linux system programming:
    - IPC, Multi-threading, Processes

- Python Programming:
  - **SDLC** using Python (from Design to Testing phase), **Programming concepts**, **Data Processing** (Pandas, Numpy, Matplotlib), **Web development** (Flask, Django), **Data Base** (sqlite3, MySQL)

## Principal Engineer 2

**HARMAN International** | May 2023 – Aug 2024

- Led teams in the automotive domain, focusing on diagnostics and cybersecurity for VW projects.
- Developed cyber security modules like IDSM and IDSR as per AUTOSAR standards.
- Utilized Kubernetes and Docker for module testing and deployment.

## Software Engineer 4

**JUNIPER Networks** | Aug 2021 – Apr 2023

- Led a team responsible network security.
- Worked on vSRX in Security Policies.

## Member Technical Staff

**SAVARI Systems** | Aug 2019 – Aug 2021

Worked on multiple projects, worked on C programming in Linux environment for core projects and used Python for test automation.

- Led a team responsible for handling **V2X security** in automotive communication systems.
- **Optimized security signing and verification** code as per the **IEEE 1609.2** standard.
- Improved code quality by addressing issues related to **Code Complexity** and **MISRA-C 2012** compliance.
- Set up and introduced a **Unit Testing framework** using **GoogleTest**, guiding the team in building test cases and writing preload libraries.
- Used **Kubernetes** and **Docker** to establish a testbed for module testing and continuous integration.
- Developed a **licensing mechanism** for the Savari stack and applications, successfully delivering a demo to stakeholders.

## Freelancer/Trainer

**Apt Computing Academy** | Jul 2017 – Aug 2019

- Delivered corporate training sessions on Python, C, C++, Linux system programming, and IoT devices.
- Developed and executed training plans focused on practical applications of these technologies.

## Technical Lead

**HUAWEI Technologies** | Apr 2011 – Jul 2017

Worked on multiple projects, worked on C and Linux environment for core projects and used Python for test automation.

- Developed data acceleration services for cloud-based solutions.
- Worked on identifying and resolving cybersecurity vulnerabilities in Diameter and LDAP protocol stacks.
- Worked on Cyber Security Coding and fixed number of cyber security issues in traditional code.
- Worked on Distributed Caching System for CDN.

**Software Engineer/ Sr Software Engineer**

**IKANOS Communications Pvt Ltd** | June 2008 – Apr 2011

Worked on DSL technology, mainly worked on C and Linux environment.

- Worked as DevTest member to understand and develop test cases and scripts for new features in VDSL.
- Took ownership of quality improvement of features SRA and SOS features.
- Trained new joiners on DSL technology and identifying issues through code walk.

**Education:**

- **M.Tech in Signal Processing**  
**National Institute of Technology Rourkela** | 2007 | Secured 8.23 CGPA
- **B.Tech in Electronics and Instrumentation**  
**Bapatla Engineering College** | 2005 | Secured 69%

**Personal Details:**

- **Name** : Kamal Kumar Mukiri
- **Father's Name** : Sambasiva Rao
- **Date of Birth** : 24th April 1984
- **Sex** : Male
- **Marital Status** : Married

Here I declare that the details mentioned above are genuine to the best of my knowledge.

Kamal Kumar Mukiri  
Bengaluru  
21/09/2024

### Training Expertise:

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- **C/C++ Programming:** Advanced features, system-level programming, memory management, multithreading
  - **Rust Programming:** Ownership, memory safety, concurrency, and system-level programming
  - **Linux System Programming:** File systems, process management, networking, and shell scripting
  - **Python Programming:** Beginner level to advanced level topics along with Pandas, Numpy, Matplotlib
  - **Embedded Systems:** IoT solutions, FreeRTOS, cross-compilation for platforms like Arduino, STM32, and Raspberry Pi
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### Technical Trainings Delivered

- **Arduino Uno (1 day):** Conducted an in-class training session at **VIT College**, Mangalore.
  - **Online Corporate Training (33 days):** Delivered Python training for **ITTStars**, Bangalore.
  - **In-Class Python Training (4 days):** Taught Python at **GreatLakes**, Chennai, Bangalore, and Mumbai.
  - **IoT Demo (2 days):** Provided an online demo on IoT for **Probits**, Bangalore.
  - **Online Python Training (30 days):** Handled four batches for comprehensive Python training.
  - **Corporate C/C++ Training (8 days):** Conducted in-class corporate training for **NTTF** and **HCL** in Bangalore.
  - **IoT+RPi+Python FDP (3 days):** Delivered sessions at ANITS, Vizag.
  - **Many online trainings on C/C++/Python**
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### Internships provided:

- **Security Door Camera:** Using Raspberry Pi and Python.
- **IoT Smart Farming:** Utilizing ESP8266 and Arduino Uno.
- **Robot Hand:** Controlled via voice commands using Arduino Uno.
- **L1 Cache Simulator:** Implemented in C language.
- **Digital Operation Simulator:** Developed using C language.

Topic	Online/in-class training	Organisation and reference	Days/hours	Time
Basic and advanced python programming	Online	ITT stars, Bangalore  Contact details: Phone : +1 770-510-3456 Name: Nanda Phone:	33 days  (2hrs each day)	07-08-2018 to 03-10-2018
Python programming for data science	In-class training, Chennai	Great learning  Contact details: Name: Vinod Phone: 9483437790	4 days  (8hrs each day)	22-10-2018 to 25-10-2018
Python programming for data science	In-class training, Bangalore	Great learning  Name: Vinod Phone: 9483437790	4 days (8hrs each day)	12-11-2018 to 15-11-2018
Python programming for data science	In-class training, Mumbai	Great learning  Name: Vinod Phone: 9483437790	4 days (8hrs each day)	
Python programming for data science	In-class training, Pune	Great learning  Name: Vinod Phone: 9483437790	4 days (8hrs each day)	
Basic and advanced python programming	Online	Own batch:  PY011118  (4 people)  Name: Tanuja (Harman) Phone: 9481285159	30 days  (90mins each day)	01-11-2018 to 05-12-2018

Basic and advanced python programming	Online	Own batch: PYM171218 (5 people)  Name: Loknath Phone: +16177747661	30 days (90mins each day)	17-12-2018 to 23-01-2019
Basic and advanced python programming	Online	Own batch: PYM171218 (5 people)  Name: Atul Gupta Phone: 9506734012	30 days (90mins each day)	17-12-2018 to 23-01-2019