Amar Lakshya

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"A Chemical Computer computing on Digital Computers"

Education & Skills

Sep 2019 - Sep 2020	**MSc. Cyber Security** *University Of Birmingham*, UK **Distinction**	**Programming Languages**: C++, C, Python, Bash, Haskell, Rust, Javascript **Operating Systems**: NixOS, Arch linux, Debian, Fedora, Ubuntu, Windows
Jul 2014 - Jul 2017	**BSc. Information Technology** *St. Xavier's College*, India **First Class**	**Applications & Frameworks**: Docker, Boost, Continuable, Catch2, ROS2, Apache, Nginx, Aws, ReactJS **Databases**: Redis, MySql, SQLite

Work Experience

Feb 2022 - Present

Software Engineer (Media): *Veracity (Manchester, UK - Remote)*

- Working on Network Video Recording (NVR) systems using C++20, Python, JavaScript, and FFmpeg across multiple hardware architectures (x86, ARM, PowerPC).
- Contributing to security focused projects using OpenSSL, FIPS, and aligning with security based certifications like MISRA C++.
- Developing features across multiple Operating Systems (Windows, Linux).
- Extending NVR features to support ONVIF and AXIS based client devices.
- Working on extending ONVIF protocol support.
- Collaborated to extend CI server features to validate pipelines using provenance and adding vulnerability testing.
- Experienced in working with testing and mocking frameworks (Catch2, trompeloeil), async libraries, boost libraries and compilers (gcc, clang, msvc).

Sep 2020 - Feb 2022

Software Engineer: *Sky Drones (Birmingham, UK - Remote)*

- Worked on internal Ground Control software suite and hardware platforms for quadcopter drones using C++14, Python, Bash, Travis, and Qt5.
- Contributed to features like route planning and movement simulation working with PX4 autopilot firmware, Gazebo, and QGroundControl.
- Made fundamental contributions to LiDAR capabilities in the drones by writing C based kernel drivers for multiple LiDAR hardware units.
- Used QEMU extensively for Research & Development.
- Worked on developing the MacOS based application port.

Sep 2018 - Feb 2019

Systems Engineer (Lead): *Nymble Labs (Bangalore, India)*

- Revamped the software architecture to produce reliable, clean OOP code.
- Implemented the next iteration of the product using C++ 14, ROS2 and Qt5.
- Worked extensively with multiple hardware platforms and aided in narrowing the platform required for the completion of the hardware product.

Projects & Contributions

Jan 2023   **Neotest-Catch2** :   *Link*

- A catch2 test adapter for the Neovim text editor.

Apr 2020   **Logi's Circle of Security** :   *Link*

- An in-depth penetration test conducted on Logitech's Circle camera.

Oct 2019   **FOS - Made to be Open** :   *Link*

- A Monolithic UNIX-like Kernel for the x86 and ARM (Raspberry Pi) platforms with ELF Parsing, PCI, Serial (ARM), Western Notes for PC Beeper and System Calls.

Sep 2018   **Cache patches (Core), Mozilla Contribution** :   *Link*

- Patches to the cache entries that expire immediately in the Cache core of Mozilla codebase.

Mar 2017   **Study Of Captchas** :   *Link*

- A study of CAPTCHA systems present on The Election Commission Of India's websites across all the states in India.

Publications & Certifications

Aug 2019   **CompTIA Security+ Certification** :   *Link*

- Earners of the CompTIA Security+ certification have the knowledge and skills necessary to perform core security functions required of any cybersecurity role.

Jan 2015   **Crossed & Knotted** :   *Link*

- Co-Author of India's First Composite Novel - written in collaboration with 12 Authors.