

Srivathsan Murali

[web: srivathsan.me] • [mailto: sri@vathsan.com] • [linkedin: [srivathsanm](https://www.linkedin.com/in/srivathsanm)] • [git: [srivathsanmurali](https://github.com/srivathsanmurali)]

I am a Software Engineer with 5 years experience, including exposure to C++/CUDA, Elixir, Golang, GNU/Linux Server maintainence.

I'm an active proponent of modern C++ and CMake. I often found myself pushing the code during code review to use modern features of C++ standards. Modern feature like `std::optional` and initializing in conditional statement make the code look much cleaner and easier to understand.

Skills

Programming: C++, C, Elixir, Golang, Python

C++ Frameworks: OpenMP, Eigen, OpenMVG

Elixir Frameworks: Ecto, Plug, Phoenix

Open Source Projects

DomSet Library [C++] - [Git](#)

- A library to **cluster camera views** produced by a Structure from Motion algorithm.
- The clusters are computing using **affinity propagation**.
- Built to reduce the computational cost of producing dense point clouds.
- This library has been merged into the brilliant **OpenMVG** software suite.

Exif Parser [Elixir] - [Git](#) - [Doc](#)

- **Extracts EXIF/TIFF metadata** from image files.
- This parser was developed to aid in processing a large collection of images during 3D reconstruction.

Other Projects Information about other projects I have worked on can be found at <https://srivathsan.me/projects.html>.

Experience

Software Engineer, Nomoko AG, Zurich (Jul 2016 - Jul 2020)

- Built Dense Point Cloud generation libraries in **C++/CUDA** to generate 3D models of cities.
- Identified *two methods to significantly reduce the computation cost* of the algorithm.
- Developed a micro service based data pipeline in **Elixir** to make sure large datasets are safely handled.
- Built a web front end using **Phoenix Framework** to find datasets and provide information to access the dataset.
- Conducted weekly discussions/workshops on *GNU/Linux, Coreutils, Git, and other useful commands*.

Research Intern, SIMTech, Singapore (Jan 2013 - June 2013)

- Developed a RFID equipment tracking system to be used in industrial facilities.
- Implemented Active RFID tags and receivers using Zigbee chips.
- Designed the server module to maintain and track the tagged equipments.

Education

MSc in Robotics, Systems and Control, ETH Zurich (Sept 2014 - Jan 2017)

- **Computer Vision** Specialization
- **Publication:** *Indoor Scan2BIM: Building Models of House Interiors* [[link](#)] [[pdf](#)]

BEng in Computer Engineering, NTU Singapore (Aug 2010 – May 2014)

- **Embedded Systems** Specialization