

Name: SRIRAM GANAPATHI SUBRAMANIAN

Address: Unit 207, 21 Columbia Street West Waterloo ON N2L3K4

Contact: +1 - 2269782945

Mail ID: g.sriram94@yahoo.com, s2ganapa@uwaterloo.ca

Gender: Male

Date of Birth: 26/05/1994

Education: Bachelors of Engineering - Geoinformatics Engineering from College of Engineering Guindy, Anna University Chennai, India

Courses undertaken include

- Object-oriented programming, Database management principles, Data Structure and Algorithms, Operating Systems
- Remote Sensing & Image Processing, Surveying, Photogrammetry, Cartography, Geographic Information Systems (GIS).
- Engineering Mathematics, Numerical Methods, Calculus.

Currently Pursuing - Masters of Applied Science in Electrical and Computer Engineering– University of Waterloo

Courses undertaken include

- Algorithm Design and Analysis, Methods and Tools for Software Engineering, Foundations of Software Engineering.

Completed projects:

1. FARMING SOLUTIONS USING GEOSPATIAL TECHNOLOGY:

22-8-2013 – 16 – 4- 2014

Team size-2 – Sponsored by **Centre for Technology Development and Transfer – Government of India**

The project involves proposing the design and prototyping of a device that guides the farmer in all activities from sowing the seed to harvesting the crop. The device is a remotely sensed device and is controlled using geospatial technology. C++ programming language was used for all programming tasks.

My role includes:

- To Program the device to accept manual inputs such as information needed from the farmer and digital inputs from the sensors
- To perform data analysis to provide constructive solutions to the farmer.
- To analyze spatial data with the help of map of the land and attributed data such as type of the soil, climate etc using Arc GIS
- The software developed is capable of providing best suitable farming practice for the chosen area and time

2. SPATIAL DECISION SUPPORT SYSTEM FOR INDUSTRIAL ROBOTS

1-5-2014 –1-7-2014

Team size-2

This project involves the creation of a system comprising both software as well as hardware part such as data base management tools, GIS software, Python programming environment on the software side and Robot accessories on the hardware side. This system is embedded in an industrial robot to enable it to take spatial decisions like the shortest possible route to a place, effective method of carrying a weight from one geographic coordinate to other, locate and replace objects etc. All the tools and programming language employed in the software are open source ware.

My role includes:

- To develop a program to automatically receive input coordinates from the Robot on the fly using Grass GIS
- To configure the coordinates in a Database management environment using Spatialite.
- To create buffers and spatial analysis modules which automatically enables the robot to take spatial decisions using Python programming language.

3. MINE CLOSURE

2-2-2013- 5-4-2013

Team size-3

The aim of the project was to develop software that will equip the mine owner to perform mine closure process and to prepare the land suitable for agricultural growth. The software is capable of accepting the requirements of the plant and satellite imagery of the region as inputs. The software is also capable of processing the input and giving an output in the form of a plan that encourages effective close of mine and subsequent effective use of the land for agriculture.

My role includes:

- To create a database making provisions for necessary inputs and outputs.
- To use an image processing software to accept the satellite image of the mine area, create subsets and perform unsupervised and supervised classifications.
- To make a web based application with login capabilities for each mine owner.

4. IDENTIFICATION OF BUNCHY TOP DISEASE IN BANANA PLANTS USING REMOTE SENSING:

10-1-2013 – 15-2-2013

TEAM SIZE -2

The project involves the usage of satellite image from LISS3 satellite to detect the presence of bunchy top disease in banana plants in the Tenkasi area of Tamil Nadu state, India. As the disease spreads quickly its early detection and control practices assume utmost importance.

My role includes:

- Subsetting the area from the satellite imagery in Erdas Imagine software and doing NDVI classification and spectral analysis.

- Identifying the presence of disease and its spread by giving the spatial locations of the disease in the study area.

5. COMPUTER AIDED INSTRUCTIONS

12-12-2011 - 10-3-2012

Team size: 1

This project was about developing a framework which could be used for making educational CDs that will make a student learn any course at his pace, comfort and ability by branching up or down to his/her level.

For completion of project my responsibilities included:

- To create of a software using C++ programming language that would assist the students to learn any course at their pace, comfort and ability.
- To enable the instructors to keep pace with the performance of students in distant learning programs.
- To introduce a concept called branching that would enable the software to switch according to the capability and interest of a student.
- To generate an executable program that can run on Windows platform.

6. SPATIAL DATA MINING FOR URBAN HEALTH MONITORING

12-12-2014 – 10-1-2015

Team size: 2

This project involves extending several data mining algorithms for the spatial domain especially for disease monitoring.

For completion of project my responsibilities included:

- To develop spatial algorithms for the given conditions.
- To create an interface to view data interactively.
- To develop a framework to classify the information.

7. CARTOGRAPHIC VIEW OF CANCER

01-07-15 - 30-09-15

This project involved the use of GIS to make a cartographic view of the lung for giving an additional tool for the doctors in treatment of lung cancer.

For completion of project my responsibilities included:

- Setting up the QGIS environment for human body mapping
- Creating custom tools in QGIS.
- Making multi-platform software which takes inputs of test reports and gives a cartographic view as an output.
- Human body mapping of lung.

PATENTS:

Pending Patent - Mine Closure - Indian patent 11581/2015-CO/L

INTERNSHIP

Wilfrid Laurier University – Waterloo, Canada - in the Spatial Lab, under the guidance of Dr. Colin Robertson.

This internship was funded by the Mitacs Globalink program.

Project: Mapping of Stresscapes in the city of Toronto.

This project aims at creation of Geospatial tools for relating the emotional stress with environment.

My task included:

- 1) Developing application (desktop) software for the Data Analysis of the data obtained through mining social data using natural language processing.
- 2) Developing the needed Geospatial tools and associated spatial databases in Android Platform
- 3) Developing Web Application for Data Collection, Data Validation and a spatial data engine for web mapping capabilities and rendering information real time.
- 4) Developing an Augmented Reality Game – for community mapping using gamification.

TRAINING

Compulsory Schooling Certificate

P.S.Senior Secondary School, Alarmelmangapuram, Chennai-04
(C.B.S.E.) Ministry of Human Resources, Government of
India

- Secured 93.2 percentages and positioned in top 10 per cent of the school.

- Merit certificate for Mathematics for being in top 0.1 per cent in the country
- Subjects included: Mathematics, Social Sciences, Basic Sciences
- Language courses included Communicative English and Hindi

Higher Secondary School Certificate

P.S.Senior Secondary School, Alarmelmangapuram, Chennai-04
(C.B.S.E.) Ministry of Human Resources, Government of
India

- Secured 9th rank in the school in Science stream with 90 percentages.
- Certificate of excellence in Mathematics.
- Subjects included: Mathematics, Physics, Chemistry, Computer Science
- Language courses consisted of English.

PAPER PRESENTATION:

1. Mine Closure using Remote Sensing and GIS:
Presented in the **Indian geospatial forum conference on emerging geospatial trade and practices, Delhi, India (2013)**
2. Mitigating problems for farmers using geospatial technology-presented in the “**GREENICS**” national level technical symposium held in CEG. Anna university
3. Mine closure using remote sensing and GIS- presented in the “**SURANNG**” national level technical symposium (of mining engineers) held in CEG. Anna university
4. Spatial decision support system for industrial robots- presented in the “**INDCON**” national level technical symposium (of industrial engineers) held in CEG. Anna university

TECHNICAL SKILLS:

1. Working programming knowledge in C++, JAVA, Python, PostgreSQL, C#
2. Good command over Image Interpretation softwares –Envi, ERDAS, Optiks
3. Adequate knowledge in GIS softwares –ArcGIS, QGIS.

Awards and achievements:

1. Received a gold coin and merit certificate from the vice-chancellor, Anna University for academic merit for the year 2013-14.
2. Received the Mitacs Globalink award for summer internship (may - august 2015). Subsequently obtained the Mitacs Graduate Fellowship for graduate studies (August 2016).
3. ESRI - Mapp your way - National level award for application for control of disease outbreak in India (December 2015).
4. Centre for Technology Development and Transfer awarded the Most innovative project award for the project Farming solutions using Geospatial Technology (April 2016).

Organisational & Communication skills:

Efficient communicating skills acquired in English due to medium of instructions till graduate studies.

- Appointed as the Student Director of Projects for the academic year 2015-2016 in College Of Engineering Guindy, Anna University.
- Experienced in delivering presentations to large audiences and active participation in group discussions.
- Has been the class representative in the 2nd, 3rd and 4th semesters of study in Anna University.
- Good managerial and organisational skills acquired through the post of

Executive Member, Society of Geoinformatics Engineers, Anna University

- Demonstrated proper code of conduct with award of Best Disciplined Student during compulsory schooling.

Extra – Curriculars:

1. Sports: Cricket, Football, Chess.
2. Public Speaking, Debate