

OBJECTIVE

To obtain a position where I can apply my knowledge of programming (Java, C/C++, MATLAB), and Engineering to the fields of scientific computing and contribute to the growth of the organization.

Availability: September 2008

TECHNICAL SKILLS

Programming Languages:

Java, C, C++, Hardware Description Language.

Numerical Computing Language:

MATLAB, R

Version Control Tools:

Subversion

Bash Shell Environment:

Cygwin

Hardware Devices:

Xilinx & Altera FPGA, Zilog Z8 Microcontroller, GE-Fanuc PLC, Sony Ericson GSM Modem.

Certifications:

Java Programmers Certification Program from UAB Human Resources and Management.

EDUCATIONAL BACKGROUND

Pursuing Masters in Electrical & Computer Engineering, at University of Alabama at Birmingham (UAB). Aug 2006-Present, Current GPA: 3.58/4.0.

Area of Focus: Scientific Programming-Simulation modeling for accurate detection of target location in a sensor field.

Bachelors in Electronics & Communications Engineering, from Shirdi Sai Engineering College, Visweswariah Technological University, Bangalore, India. GPA: 3.2/4.0.

WORK EXPERIENCE

Organization: Section on Statistical Genetics (UAB), **Oct 2007-Aug 2008.**

<http://www.soph.uab.edu/ssg/>

Position Held: Graduate Research Student

- Research on the accuracy of probability values obtained from statistical software tools such as R, and C and Java numerical libraries, often used in Genomic research to make scientific judgment.
- Currently working in the release of the next version of Mix-o-matic Java API.

Skills Used: Scripting programs in Java, C and R, publishing scientific literature.

Organization: Department of Electrical & Computer Engineering (UAB), **Oct 2006-Feb 2007.**

Position Held: Graduate Student Assistant

- Prepared course supplement documents for undergraduate level electrical engineering course.
- Edited lecture materials on effective technical writing for graduate level technical writing course.

Skills Used: Developing electrical circuits using PSpice IDE, drafting, editing and proofreading documents under course instructor's guidelines on effective technical writing.

Organization: Silicon Microsystems, Bangalore, India **Dec 2004-May 2006.**

Position Held: Application Developer

- Developed embedded systems applications on Zilog microcontrollers, and VLSI chips.
- Provided onsite technical support for PLC's, Microcontroller based devices.

Skills Used: Application development, and interacting with customers on technical troubleshooting issues.

RESEARCH EXPERIENCE:

Research Done at: Section on Statistical Genetics (UAB), Oct.2007-Aug.2008.

How Accurate Are Extremely Small p-values used in Genomic Research: An Evaluation of Numerical Libraries

Authors: Sai Santosh Bangalore, Jelai Wang, David B. Allison

Journal: Computational Statistics and Data Analysis (Received positive reviews and is under revision for submission)

Abstract:

The Accuracy of data obtained from statistical software is important to make consistent and accurate scientific judgment. The objective of this research is to investigate the accuracy of p-values (probability values) often used in Genomic research. We have assessed the accuracy of tail areas of distributions obtained from several popular, open source and licensed C and Java numerical libraries, and tools such as R informing researchers on the importance of accuracy in development of statistical software tools and in the field of Genomic research. **The findings of this paper have been incorporated by one of the leading and popular developer of commercial numerical libraries catering to programmers all around the world.**

Comparison of threshold designs for target location in sensor networks using binary data.

Abstract:

This project involves target location estimation in a pre-laid out sensor field, deployed on an aquatic or land terrain environment. The challenge is to design optimal thresholds for sensors such as optimal number of sensors fire, i.e. if optimal thresholds are not set too many or too few sensors can fire resulting in large localization errors. The objective here is to compare the accuracy in estimating the target coordinates in the region of interest based on various methods of optimal threshold design for deployed sensors using binary data. The method involved here are data estimation using statistical methodologies such as maximum likelihood estimation, cramer-rao lower bound, and fisher's information matrix. A simulation model of the sensor field and the various testing methodologies was developed using MATLAB and R.

Undergraduate Research Project (India), 2003-2004:

Real Time Data Acquisition Using GSM

Abstract:

This project was aimed at developing a novel method of acquiring any unmanned real time data by interfacing a GM29 Sony Ericsson GSM Modem with a Zilog Z8 Microcontroller. A remote temperature data is acquired and transmitted to a base station in the form of an SMS using a GSM modem. This project can be extended to acquire any real time remote data where human presence is not possible or not required. The devices and tools used in this project were Zilog Z8 microcontroller, GM 29 Modem, and Z8 Encore Microcontroller Programmer IDE. The devices were programmed using C, Embedded C, and Zilog Z8 Assembly Language.

ACTIVITIES & INTERESTS

- Photography and short films.
- Building and repairing homes as a volunteer for habitat for humanity UAB chapter.
- Worked as a volunteer for Sri Sathya Sai Seva Organization, India, activities involved providing free of cost high quality primary health care and rural development activities.