JEENA SEBASTIAN
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Objective:

Aspiring for a role that places me in a challenging position within a fast-paced and learning-oriented environment for developing my technical and business skills.

Professional Experience

- Over **ten years** of experience in, Indoor Positioning Systems, Analytics, Wireless Sensor Networks, Application Development, Mobile Computing Technologies, Power Aware Solutions for Mobile Multiplayer Games, and Databases in **Indian Institute of Science (IISc), National University of Singapore (NUS),** and in **Singapore Management University (SMU).**
- Experience in **developing, deploying and maintaining** Wi-Fi based **indoor positioning** systems at SMU and various venues within Singapore.
- Experience in **analyzing large volumes of location data** to derive descriptive analytics to suit various business requirements.
- Experience in **database design** and implementation to support novel and research applications at LiveLabs innovation centre at SMU.
- Experience in building **server side APIs** to support various mobile applications developed at LiveLabs innovation centre at SMU.
- Experience in developing **wireless sensor network** for human intrusion detection using **TelosB motes** and **TinyOS.**
- Good knowledge in Wi-Fi based positioning systems, good at using various sensor data for various use cases, excellent analytical and problem solving skills, excellent interpersonal, communication and leadership skills, and ability to work well with diverse teams.

Technical Skills

Operating Systems	:	Unix, Debian, Windows, MS-DOS, TinyOS, Android
Frameworks	:	CodeIgniter, Android SDK
Scripting Languages	:	Shell scripting, Perl script, Python script
Web Technologies	:	Java, PHP, JSON, Perl Script
Application / Web Servers	:	Apache Tomcat
Programming Languages	:	Java, C, C++, nesC, Android programming
Controllers	:	Aruba, Cisco, Alcatel
Databases	:	Postgres, MySQL, Mongo
IDE	:	Eclipse, Source Insight
Tools	:	SVN, GIT
Protocols	:	Zigbee
Embedded hardware	:	TelosB, MicaZ, IRIS

Experience Particulars

- Working in **Singapore Management University** (SMU)**,** Singapore as a Software Development Engineer from Mar'12 till date.
- Worked in **National University of Singapore** (NUS), Singapore as a Research Assistant from May '10 to Feb '12.
- Worked in **Indian Institute of Science** (IISc), Bangalore, India as a Project Associate from Nov '07 to March '10.

Education

- **Masters in Biomedical Signal Processing and Instrumentation** (M. Tech) from Sri Jayachamarajendra College of Engineering (SJCE), India – Jun 2007.
- **Bachelors in Electronics and Communication Engineering (AMIE)** from The Institution of Engineers (IEI), India – Mar 2004.
- **Diploma in Medical Electronics** from Model Polytechnic, India – Mar 2000

Singapore Management University, Singapore **Duration**: Apr '12 – till date

Project	**:**	**Wi-Fi Based Indoor Positioning System**
Role	:	Software Engineer / Research Engineer in LiveLabs
Description	:	Scope of the project includes developing, deploying and maintaining RADAR based Indoor Location System at SMU and various other venues such as Suntec Convention Centre, Sentosa, and National Museum of Singapore.
Tools Used	:	Java, Perl Scripts, Shel Scripts, PHP, Postgres, Mongo, Eclipse IDE
Environment	:	Unix
Responsibilities	:	

- Coordinate with Business Team / Project Manager / Faculty to get the business requirements
- Develop and maintain Location Server software, deploy the Location Server at various venues, perform accuracy and latency testing of the system at all the venues.
- Coordinate with IT team of the respective venues to configure controllers and access points to get backend data for the location calculation.
- Prepare UNIX servers/laptops with necessary software installations to fetch data from backend and to run the Location Server in real-time.
- Work on Wi-Fi fingerprinting of the venue, which includes identifying landmarks, preparing 2D floor maps with landmarks, sectioning of the floor maps based on accuracy, manage fingerprinting, process the fingerprint data, and insert the necessary details into different database tables.
- Develop different server side modules, testing, and maintenance of them to support various research/business requirements such as Behavioral Experimentation Platform, Sentosa Promotion Portal, SMUddy – The SMU Buddy App, Treasure Hunt App etc.
- Implement different server-side APIs to support various mobile applications developed by the LiveLabs team.

- Manage Database – design database for the project – create schemas and tables, indexing, partitioning, automated archival etc.
- Coordinate with different team members for Systems Integration, testing, bug fixing, and technical support.
- Showcase LiveLabs' technologies at different workshops, to clients, visitors and prospective partners, and participate in recruitment drives for LiveLabs.

National University of Singapore **Duration**: May '10 to Feb '12

Project	**:**	**Power and Network Aware Software Infrastructure for Multiplayer Games**
Role	:	Research Assistant / Software Developer at CIR Lab
Description	:	Scope of the project includes design and implementation of different algorithms to save power on mobile devices while playing multiplayer games.
Tools Used	:	C++, Perl Scripting, Python Scripting, svn
Environment	:	Unix, Windows
Responsibilities	:	

- Design and development of power aware algorithms to save mobile battery while playing mobile multiplayer games over internet.
- Implementation of network aware algorithm to save the network component of the mobile device – saved up to 38% of network power.
- Implementation of algorithm to save LCD display power on mobile device – saved 46% of the display power.
- Demonstration of the above algorithms in a well-known multiplayer game, Quake III
- Coordinate with other team members in module testing, integration of different modules, and testing the algorithms
- Conduct user studies to understand the user experiences after applying the power aware modules to the Quake III game.
- Documentation of the algorithms and power saving results at various scenarios – This work has been presented in multiple international conference such as Mobisys 2011 and HotMobile 2011

Indian Institute of Science (IISc), India **Duration**: Nov '07 to Mar '10

Project	**:**	**SmartDetect: Wireless Ad-hoc Sensor Networks for Intrusion Detection**
Role	:	Project Associate /Software Engineer at Ernet Lab
Description	:	Scope of the project includes developing and demonstrating a working model of Wireless Sensor Network for Intrusion Detection at border areas using TelosB motes running TinyOS.
Tools Used	:	TinyOS, nesC
Environment	:	Unix, Windows
Responsibilities	:	

- Design and development of various WSN algorithms and their software realization over TelosB motes running TinyOS using nesC programming language. The software components include – Power-aware Self-organization, Intrusion detection using acoustic and PIR (Passive InfraRed) sensors, Corroborative alarm declaration, topology free geographic routing etc.
- Extensive code optimization of the application software so that the implementation of the above mentioned algorithms can be incorporated on memory constrained TelosB motes.
- Integration of all modules of the application and elaborate unit and integrated testing of algorithms.
- Extensive experiments on acoustic, vibration, magnetic and Passive InfraRed sensors.
- Coordinate with different team members for Systems Integration, testing, and bug fixing.

Note: References will be provided on request.