Sunil Murthy

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Summary

Experienced Software Engineer with 8+ years in enterprise software development and cloud computing. Currently Senior Software Engineer at Amazon Web Services, specializing in mobile device management and secure access solutions. Proven track record in developing scalable cloud services, medical imaging software, and IoT systems. Strong background in machine learning, data mining, and distributed systems with expertise in C#, Python, AWS, and modern software engineering practices.

Education

University of Colorado Boulder, Boulder, CO.   *Aug 2015-Present*

Master of Science in Computer Science

GPA: 3.6 of 4.0.

Coursework: Machine learning, Data mining, Operating Systems, Object oriented design & analysis, Design & analysis of Algorithms, Network systems, Software engineering.

Bangalore Institute of Technology, Bangalore, IN.   *Sept 2007-Jun 2011*

Bachelor of Engineering in Computer Science & Engineering

GPA: 3.67 of 4.00.

Research Interest

Machine learning, Data mining, Data Analytics, Software development, Image processing.

Skills

C#, .NET, TFS, NUnit, NMock 2.0, WPF, WCF, PRISM, COM, Direct3D, Python, Design Patterns, Clearcase, Linux, C, C++11, GDB, Valgrind, PDB, CLI/C++, MSSQL, MongoDB, Enterprise Architect, NodeJS, AngularJS, Java, Javascript, GIT, GTK+, QT, AutoTools, Perl, MATLAB, R, Apache Spark.

Work Experience

Graduate Research Assistant

University of Colorado, Boulder   *Dec 2015 - Present*

- Development of firmware for YPOD(Arduino Yun and chemical sensors) a low cost air quality monitoring system. Supervisor: Prof. Michael Hannigan
- Developing MongoDB backend using AWS for storing the data streamed by Arduino yun over the WiFi module.
- Colloboration and integration of YPOD data with OpenAQ, a real-time database that provides programmatic and historical access to air quality data.

Graduate Teaching Assistant

University of Colorado, Boulder   *Aug 2015 - Dec 2015*

· Taught Data structures in C++11 to undergraduates. Under supervision of Prof. Rick Osborne.

Senior Software Engineer

Siemens Healthcare, Bangalore   *Jan 2014 - Jul 2015*

· Design, development, Unit testing of software components related to medical imaging software - Syngo.Native(Siemens proprietary software platform for imaging)

· Design and development of display manager for DICOM image rendering using Direct 3D and WPF.

· Prototyping of data management module for Imaging software.

Systems Engineer

Siemens Healthcare, Bangalore   *Jul 2011 - Jan 2014*

· Design, development, unit testing and bug fixing of medical Imaging software.

· Exploring and incorporating the new algorithms, strategies to meet the performance(Increase by 5%) and memory(reduced leak of 100 MB/hr) in the product.

· Knowledge management by documenting details of all software components.

· Coordinating and Integrating 3rd party software package into sygno.Interventional product.

· Providing timely trainings and hands on session to the team to keep up with the latest Microsoft technologies (WPF, WCF, PRISM).

PROJECTS

Music recommender system [2016] A personal music recommender system using user preference analysis. I used hybrid model approach which is a combination of collaborative and content based filtering. Apart from recommender system I also build a automatic genre classifier. I used Apache spark(map-reduce) for processing large data-set and Mlib(part of spark) for constructing a model.

pyFFT [2016] The python implementation of Fast Fourier transformations and Discrete Fourier transformations.

YPOD [2016] The YPOD is an embedded-systems platform developed at the University of Colorado at Boulder intended for mobile air quality and environmental monitoring. The configurable design accommodates a variety of sensors, making it a valuable tool for a multitude of applications.

Betrayal in On-line Strategy Game Diplomacy [2015] Detecting when the betrayal is going to happen in a on-line strategy game called Diplomacy. Our approach involves using the game state to capture the game contextual information for modelling a classifier.

Distributed File Server [2015] Client/server based application that allows client to store and retrieve files from multiple servers. Support for simultaneous multiple users, authentication and data encryption using AES.

Web server [2015] Implementation of HTTP web server in C++11. Supports handling of multiple clients, HTTP 1.0 and HTTP 1.1, persistent connection(pipe-lining). Brings up the web server based on the web configuration file.

Key logger [2015] This is a winter break free-time project. The idea is to track the user keystrokes. It's a client server based architecture. Where the client runs in the background without the knowledge of the user, started as a demon at kernel boot time. This client will listen to the keys and send the window name, user id and keystroke to the server.

Screen Recorder [2014] Screen recorder records all screen activity on your computer and create a video file using FFMPEG encoder. It is written in C#. It let's you save the video in the required format (MP4, AVI, MKV etc.).

.NET Memory Profiler [2014] A custom .NET memory profiler application. It automatically logs the memory consumption for the process/processes which has loaded the module(DLL) of interest in Syngo.Via application. This profiler helped in figuring out the memory leaks and Out of memory exception in the project.

Simple OS [2013] A simple Linux like operating system written in C and Assembly using GRUB boot loader.

Voice over GPRS [2010] Voice over GPRS is a Voice chat application for symbian mobile phones. It consisted of 3 subsystems Voice chat, Voice-mail and Virtual classroom.

HONORS & AWARDS

University of Colorado, Boulder Boulder, CO   *Aug 2015*
One time university fellowship from the Department of Computer Science.

Siemens Healthcare Bangalore, IN   *Jan 2014*
Award for efforts in identifying the bottlenecks that lead to stability issues in the project.

Siemens Healthcare Bangalore, IN   *Jan 2013*
Spot award for extraordinary efforts towards delivery of project

Bangalore Institute of Technology Bangalore, IN   *Jan 2008*
Received scholarship for 3 years from HoneyWell.

High School Bangalore, IN   *2004*
Scholarship from Prerana Infosys foundation.