SUNIL BN

Email: suba5417@colorado.edu
Ph: (303)667-4490
Github: www.github.com/sunhick
LinkedIn: www.linkedin.com/in/sunhick

SUMMARY

- 4 years of industry experience with .NET technologies and C++ as Systems engineers and associate software developer at Siemens Healthcare.

PROFESSIONAL EXPERIENCE

Software Developer, Siemens Healthcare (Chicago, IL) *May 2016 - Aug 2016*

- Development of frontend for syngo.native systems using .NET technologies (PRISM, WCF, WPF and C#).
- Integration of Post-processing front end with the backend in-coordination with offshore teams.
- Developed a centralized logging system with client-server architecture as plug-in and integrated with product.
- Defect analysis, debugging and resolution.

Graduate Research assistant, University of Colorado, Boulder (Boulder, CO) *Dec 2015 - May 2016*

- Development of firmware for YPOD (Arduino Yun and chemical sensors) a low cost air quality monitoring system. Supervisor Prof. Michael Hannigan.
- Developing MySQL backend using AWS for storing the data streamed by Arduino yun over the WiFi module.
- Collaboration 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 (Boulder, CO) *Aug 2011 - Dec 2015*

- Taught Data structures in C++11 to undergraduates. Under supervision of Prof. Rick Osborne.
- Wrote python scripts to auto grade the students assignments.

Senior software engineer, Siemens AG(Bangalore, India) *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 technology and services (Bangalore, India) *Jul 2011 - Jan 2015*

- 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).

EDUCATION

University of Colorado, Boulder, CO *Aug 2015 - May 2017*
Masters of Science in Computer Science 3.54/4

Coursework: Machine learning, Computer vision, Data mining, Object oriented design & analysis, Algorithms, Network systems, Software engineering, Computer graphics, Storage systems.
Research Interest: Machine learning, Computer vision, Data analytics and Software engineering.

Bangalore Institute of Technology, Bangalore, India *Sep 2007 - Jul 2011*
Bachelor of Engineering in Computer Science 3.67/4

TECHNICAL SKILLS

C#, C, C++11, Python, Go, Java, Javascript, TFS, GIT, AngularJS, Django, MongoDB, NodeJS, ReactJS, WPF, WCF, Design Patterns, openCV, Tensorflow, scikit-learn, GDB, PDB, NUnit, NMock 2.0, MATLAB, Apache spark, AWS EC2, HTML, CSS, Bootstrap, jQuery.

PROJECTS

- **Discovery learning apprenticeship [2016]**
  Developed a website for University of Colorado-Boulder for discovery learning apprenticeship program. I used AngularJS as frontend, Nodejs as backend and Mongodb as database (MEAN Stack). It's build by following best practices for building RESTful API's and MVC design. The application is deployed in Amazon EC2 instance and can be accessing at http://ec2-54-213-113-154.us-west-2.compute.amazonaws.com:3000

- **Scene recognition [2016]**
  Created a scene recognition application using Bag of visual words (BoW) and Deep learning techniques. The BoW is a old traditional way of training the model to recognize the objects by constructing the frequency histogram of visual words. we were able to achieve accuracy of ~63%. With deep learning techniques implemented using tensor flow we were able to achieve accuracy of ~89%. Web app was developed using Django, AngularJS and deployed in AWS.

- **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.

- **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 Online Strategy Game Diplomacy [2015]**
  Detecting when the betrayal is going to happen in an online 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(pipelining). Brings up the web server based on the web configuration file.

- **Keylogger [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 lets 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.

AWARDS

- **University of Colorado-Boulder,** Boulder, CO
  One time university fellowship from the Department of Computer Science.
- **Siemens Healthcare,** Bangalore, India
  Award for efforts in identifying the bottlenecks that lead to stability issues in the project.
- **Siemens Healthcare,** Bangalore,India
  Spot award for extraordinary efforts towards delivery of project
- **Bangalore Institute of technology,** Bangalore, India
  Received scholarship for 3 years from HoneyWell.
- **Vijaya High school,** Bangalore, India
  Scholarship from Prerana Infosys foundation.