Rubing Guo

Database Analyst at UAMS - University of Arkansas for Medical Sciences

rubingkuo@gmail.com

Summary

Experience in software development, design, and algorithm related environment:

• Software engineering internship

• Teaching assistant in CS courses

Skills: C++/C, Java, J2EE, Object Oriented Programming, SQL, Database, Shell Scripting, HTML, CSS, PHP, Ruby, Bootstrap, JavaScript, SAS Programming, MS Access, Linux Command Line.

\# Email me if you're interested: rubingkuo@gmail.com

Experience

Database Analyst at   UAMS - University of Arkansas for Medical Sciences

January 2017 - Present (2 months)

Web Software Developer at   BBA Solutions

May 2016 - November 2016 (7 months)

Mostly use Ruby on Rails, MVC, HTML, CSS, Bootstrap, Javascript, DB, SQL, GIT and so on. Websites I have developed are listed below,

huffmanandcompany.com

don-pepes.com

arcsa.poweredbyrev.com

tonysmithlaw.poweredbyrev.com

Research Assistant, Intelligent Autonomous Systems Laboratory, UALR. at   University of Arkansas

September 2014 - May 2016 (1 year 9 months)

Applied the SIFT and SURF descriptor to SLAM and studied the difference between their performances.

Developed a method to detect and recognize human activities using a single IMU.

Professional Intern at   Nanjing Baoyan Automation Co. Ltd

September 2012 - June 2013 (10 months)

• Designed models and examined errors using Auto-CAD;

• Converted the STL files into a series of thin layers for 3D printing;

Certifications

C Programming Language Certification

Education

University of Arkansas at Little Rock

Master of Science (MS), Computer Science, 2014 - 2016

Nanjing Normal University

Bachelor of Engineering (B.Eng.), Electrical and Electronics Engineering, 2010 - 2014

Skills & Expertise

Algorithms
Java
C++
C
JavaScript
Ruby on Rails
HTML5
CSS
Bootstrap
Data Analysis
SAS Programming
Databases
Object-Oriented Programming (OOP)
Matlab
Shell Scripting
Linux
Microsoft Access
SQL

Projects

3-D Point Cloud Registration

August 2015 to December 2015

Members:Rubing Guo

Use VRO the pose change estimation method to determine the pose change of matched features extracted from two consecutive images using SIFT, and then integrate the pose change starting from the first frame to generate the pose in global coordinate. Using the global pose of each frame to register every pixel on it, to form a consecutive trajectory along with the corresponding map, which is the 3-D point clouds of the map around the robot.

Human Activity Detection and Classification using IMU Data

January 2016 to March 2016

Members:Rubing Guo

Get the raw data from IMU, including acceleration and angular rate from accelerometer and Gyroscope separately.

Using the thigh angle computed from the information fusion of acc and gyro, to classify the human activity, with the preparation of mounting the IMU on the thigh, Gx represents the movement forward and backward. The whole process comes with

Get raw data using C++, then apply butterfly filter to remove noise from the raw data, get thigh angle calculation, zero detection, human activity classification, including walking, running, standing, sitting.

A Comparative Study of SIFT and SURF's Performances in SLAM

January 2016 to May 2016

Members:Rubing Guo, Soonhac Hong

Apply SIFT and SURF descriptor separately to detect the feature on the sequence 3D images derived from 3D camera, the outliers of the feature matching process is removed by RANSAC.

Followed by calculating the Pose Changes between matched points using SVD.

The PCs are then optimized by Pose Graph Optimization.

SIFT and SURF's performance in the VRO-PGO process are compared through accuracy comparison and efficiency comparison.

The conclusion is SURF is much slower than SIFT using SLAM(VRO-PGO), the main reason is the RANSAC process takes much longer time than SIFT, and the accuracy consistency is worse than that of SIFT, from the result we got, the mean error of the method based on SURF performs four times greater than SIFT based method, and the computational time of SURF-SLAM is thousands more than SIFT-SLAM.

Netpong Network Programming Under LINUX OS

January 2016 to May 2016

Members:Rubing Guo

Volunteer Experience

Editor at   Nanjing Daily Media Group

July 2012 - Present

Courses

Master of Science (MS), Computer Science

University of Arkansas at Little Rock

Spatial Time Series	SYEN 5352
Linux Systems Programming	SYEN 5308
Math Statistics I	MATH 7350
Math Statistics II	MATH 7351
Real-Time Embedded Sytems	SYEN 7306
Parallel Processing	CPSC 7312
Image Processing	CPSC 7374

Languages

English	(Native or bilingual proficiency)
Manderin	(Native or bilingual proficiency)
French	(Limited working proficiency)

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Linked in.

1 person has recommended Rubing

"I shared a research group with Rubing at University of Arkansas for a year starting Fall of 2015. I found her to be hardworking, diligent and smart. She happened to be a quick learner and was never afraid to ask questions. She showed herself to be a good problem solver. She maintained a healthy working relationship with all the colleagues in the group. Overall she is a well rounded individual who is keen to grow and learn."

— **Muhammad Emaduddin**, *Research Associate, University of Arkansas at Little Rock*, worked directly with Rubing at University of Arkansas

Contact Rubing on LinkedIn