Yubo Shao

Ph.D. Candidate
Department of Computer Science
Purdue University

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RESEARCH INTERESTS

Mobile sensing, mobile computing and mobile authentication.

EDUCATION

Purdue University | West Lafayette, IN **August 2017 – Present**

Ph.D. & M.S. in Computer Science
Advisors: He Wang, Ph.D. & Jianzhu Ma, Ph.D.
GPA: 3.66/4.0

University of Minnesota – Twin Cities | Minneapolis, MN **August 2013 – May 2017**

B.S. with High Distinction
Double Major: Computer Science & Mathematics
GPA: 3.95/4.0

PUBLICATION

AirSign: Smartphone Authentication by Signing in the Air
Yubo Shao, Tinghan Yang, He Wang, Jianzhu Ma
Under submission to IEEE Transactions on Mobile Computing, 2020 (Major Revision)

RESEARCH EXPERIENCE

Graduate Research Assistant **August 2017 – Present**

Department of Computer Science, Purdue University

Advisor: He Wang, Ph.D.

Project 1: Smartphone Authentication System

- Designed and developed an in-air signature authentication system using in-built mobile sensors.
- Implemented a real-time data collection Android app and signature authentication system.

Project 2: 3D Facial Authentication System

- Conducting research on a 3D facial authentication system using acoustic sensors.

Undergraduate Research Assistant **Jan 2016 – Dec 2016**

Department of Computer Science and Engineering, University of Minnesota

Advisor: Volkan Isler, Ph.D.

- Simulated micro-arm to catch apples using 3D depth camera through ROS and V-Rep.
- Implemented Octree structure to estimate the apple trees' volume with large points data set.

SELECTED PROJECTS

Thomson Problem **Jan 2020 – May 2020**

- Investigated the optimization problem on the surface of the hyper-sphere – Thomson Problem.
- Simulated the Thomson Problem under different assumptions using Julia and MATLAB.

TakeTime Cross Mobile App **September 2015 – May 2016**

Advisor: Daniel Challou, Ph.D.

- Designed and developed a time-management mobile app – TakeTime Cross.
- Developed frontend academic activities' page with HTML, CSS, JavaScript and AngularJS.

Medical Image Analysis App **Jan 2016 – May 2016**

- Designed and developed efficient medium-sized program by linking external C++ libraries.
- Implemented a medical image application which can provide six tools and color setting.

TEACHING EXPERIENCE

CS 240 Programming In C **Spring 2019 & Fall 2020**

Graduate teaching assistant, Purdue University.

CS 190 Introduction To Programming **Summer 2020**

Developed homework assignments and test modules for CS 240, Purdue University.

Math 4428 Mathematical Modeling **Spring 2016**

Undergraduate paper grader, University of Minnesota.

Math 1151 Pre-Calculus II **Fall 2014 & Spring 2015**

Homework programmer, University of Minnesota.

Peer Learning Consultant **August 2014 – May 2017**

Tutored students in Mathematics, Computer Science and Chinese, University of Minnesota.

SKILLS

Programming Languages

Java (Proficient), C/C++ (Proficient), MATLAB (Proficient), Python (Proficient), C# (Medium), Swift (Medium), Julia (Medium), HTML5 (Medium), CSS (Medium), JavaScript (Medium), SQL (Familiar), R (Familiar), SAS (Familiar)

Software & Tools

Android Studio, XCode, Jupyter Notebook, GitHub, Eclipse, OpenCV, LaTeX, UNIX/Linux, ROS

HONORS & AWARDS

Dean's List (four years), University of Minnesota (2013 – 2017)
Lando Scholarship, School of Mathematics, University of Minnesota (2016 – 2017)
Lando Scholarship, Department of Computer Science, University of Minnesota (2016 – 2017)
MAA-NCS Team Competition – 3rd Place (Nov. 2016)
MAA-NCS Team Competition – 9th Place (Nov. 2015)