Yubo Shao

Ph.D. Candidate
Department of Computer Science
Purdue University

shao111@purdue.edu
(+1) 612-295-5111
https://shaoyubosyb.com

RESEARCH INTERESTS

Mobile sensing, mobile computing and mobile authentication.

EDUCATION

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

Ph.D. & M.S. in Computer Science
Advisors: He Wang, Ph.D. & Jianzhu Ma, Ph.D.
GPA: 3.73/4.0

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

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

PUBLICATION

Shao, Y.; Yang, T.; Wang, H.; Ma, J. AirSign: Smartphone Authentication by Signing in the Air. *Sensors* **2021**, *21*, 104.

PATENT

System architecture and method of authenticating a user, US20200265215A1

RESEARCH EXPERIENCE

Graduate Research Assistant **Aug 2017 – Present**

Department of Computer Science, Purdue University

Advisor: He Wang, Ph.D. & Jianzhu Ma, 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

Canine Video Analysis Using Computer Vision **Aug 2020 – Present**

- Working on the *Elanco*'s project which applying computer vision to recognize animal behavior.

Untouched App Control Using Doppler Effect **Jan 2020 – May 2020**

- Implemented an Android App to recognize three different gestures by using doppler effect.

TakeTime Cross Mobile App **Sep 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, Summer 2020, Fall 2020 & Spring 2021**

Graduate teaching assistant, led labs and developed test modules for homework, 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 **Aug 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)