PETE FAN

Electrical and Computer Engineering

@ petefan.7@utexas.edu +1 (469) 434-5308 github.com/PaperFanz paperfanz.github.io

EDUCATION

B.S. Electrical and Computer Engineering

University of Texas at Austin

Aug 2018 - May 2021 GPA: 3.91

Relevant Coursework: Computer Architecture, Embedded Systems, Operating Systems, Digital Image Processing, Algorithms, Concurrent and Distributed Systems*, Graduate Advanced MCU Systems*
* indicates future coursework

PROFESSIONAL EXPERIENCE

Undergraduate Research Assistant

Nuclear and Applied Robotics Group

April 2019 – Present Austin, Texas U.S.A.

- Architected an IoT - Robotics integration project to extend onboard sensors with networked embedded systems for greater operational autonomy and hardware redundancy
- Ongoing work on a situational awareness package using ROS Nodelets and OpenCV to provide remote operators with context-aware visual feedback
- Co-authored a paper on intuitive remote teleoperation leveraging VR motion sensors and affordance templates
- Participated in an intercontinental teleoperation demonstration between UT Austin and Woodside Energy (Perth, Australia)
- Created and tested a virtual reality dual manipulator jogging scheme using the HTC Vive motion controller system
- Conducted feasibility analysis on next-gen ROS networking solutions including 10G fiber tether, WiFi 802.11ax, and 5G modems

Teaching Assistant

Introduction to Computing (UT ECE Dept.)

Aug 2019 – Dec 2019 Austin, Texas U.S.A.

- Created an IDE-like extension for Visual Studio Code for LC3 assembly language, including syntax highlighting, autocomplete, and snippet support: PaperFanz/lc3-assembly-vscode-ext
- Developed an accompanying assembler with extended pseudo-op features and cross-file assembly in C: PaperFanz/laser

NanoExplorer Scholar

Human Enabled Robotics Lab

June 2016 - July 2018 Richardson, Texas U.S.A.

- Developed a motion smoothness measurement algorithm for use in a robotic surgery training system using C++, OpenGL, and ROS
- Designed and conducted human subject study assessing effectiveness and robustness compared to existing measures

TECHNICAL SKILLS

System Design | Computer Architecture | Operating Systems | Motion Controls | Virtual Reality | Computer Vision | Embedded Software | Circuit Design | CAD

PROGRAMMING

C/C++ | Python | ROS/ROS2 | OpenCV | Java | Rust | QT5 | Javascript/Typescript | HTML/CSS | Verilog | R | MATLAB | LaTeX

SOFTWARE

Linux | Visual Studio Code | Git | Keil uVision 5 | Xilinx Vivado | R Studio | MATLAB | Fusion 360 | EasyEDA

REFEREES

Dr. Mitchell W. Pryor, Ph.D
Research Scientist
University of Texas at Austin
@ mpryor@utexas.edu

Dr. Ramesh Yerraballi, Ph.D
Professor of Instruction
University of Texas at Austin
@ ramesh@mail.utexas.edu

PUBLICATIONS

Conferences

- Pettinger, Adam et al. (2020). “Reducing the Teleoperator’s Cognitive Burden for Complex Contact Tasks Using Affordance Primitives”. In: *Proceedings of IROS 2020*. Las Vegas, USA.