Hao Lu

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812-318-2627

Education

- **Indiana University Bloomington** — Bloomington, IN
  Master of Science in Computer Science GPA:3.73 — *Aug. 2011 – May. 2013*
- **Herbin Institute of Technology** — Harbin, China
  Bachelor of Electronic Engineering GPA:3.4 — *Aug. 2004 – Jun. 2008*

Working Experience

- **Computational Cognition and Learning Laboratory** — Bloomington, IN
  Software Developer & System Admin — *Sept. 2012 – Present*
  - Employ technologies such as Python, Bash, Linux, C/C++, Perl, Matlab, and ffmepg to automate and maintain testing of internal APIs using agile and continuous integration methodologies.
  - Using machine learning algorithms to design and implement multi-channel multi-sensory signals (sound, video, motion sensor) recording and processing algorithms, optical flow, object detection, and object recognition.
  - Plan, implement, and support operating system and experimental components of other software. Hardware design, configuration, installation, performance monitoring, and tuning. Diagnose and resolve complex problems with computer-related performance and optimization.
- **IU Department of Computer Science** — Bloomington, IN
  Teaching Assistant (Hardware System 2) — *Jan. 2013 – May. 2013*
  - Lead lab session and teach student using Embedded C to make GPS/Wifi, gyro, magnetometer,and accelerometer to communicate with STM32F3 ARM.
  - Help students design and debug their embedded coding projects. Test and evaluate student's work.
- **National Institute of Informatics** — Tokyo, Japan
  Research Intern — *Jun. 2012 – Aug. 2012*
  - Implement TRECVID instance search project, by developing algorithm to identify video segments of a specific person, object, or place from a large video database.
  - Enhance the capability of algorithm to recognize the objects.
- **Shanghai Academy of Space Flight Technology** — Shanghai, China
  Software & Hardware Engineer — *Jul. 2008 – Jul. 2011*
  - Implement temperature control, gyroscope filter, image processing, data handing software solution in FPGA, DSP and host machine.
  - Design the thermostat model, preprocessing image model, image processing model, and DC power supply distribution model.
  - Design infrared detector readout circuit, multi-motors drive circuit, FPGA and DSP image processing circuit, DC-power supply circuit, 3D-gyroscopes and 3D-accelerometers circuit, and optical fiber communication circuit. Engineer and test hardware components to insure accuracy and functionality for embedded designs.

Skills

Technologies: C/C++, Java, Python, Perl, R, MySQL, JavaScript, PHP, HTML, CSS, Matlab, Scheme,VHDL, MPI, FPGA (Verilog HDL), Powershell, advanced Unix shell scripting, LaTeX, GIT, SVN, XML, VPN

Computer and OS: Linux/Unix/Embedded Linux, Windows, Mac OS, In-depth H/W and S/W knowledge and troubleshooting techniques, Linux server administration, BIOS & EFI setup

Software: MS Visual Studio, NetBeans, Matlab, Eclipse, Emacs, Polhemus, Apache, TDD, Tomcat, Github

Projects: Polhemus data export API, Multi-sensory data management engine, First person view video analyses, Vocal formant and anti-formant tracking, TRECVID instance search, Infrared earth sensor for satellite attitude control, Stabilized pointing and tracking platform for seeker