

## YI LIU

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### EDUCATION

- M.S. in Mechanical Engineering 09/11 to present  
University of Michigan at Ann Arbor
- M.S. in Precision Instrument and Machinery 03/10  
Beijing Aerospace Times Optical-Electronic Technology Co., Ltd.
- B.S.E. in Control Science and Engineering 06/07  
Harbin Institute of Technology, Harbin, China

### RELATED COURSEWORKS

Automatic Control Theory    Digital Signal Processing    Wavelet Denoise Theory  
Linear Control System        Adaptive Control            Kalman Filter

### RESEARCH EXPERIENCE

- SINS/GPS/Geomagnetic Integrated Navigation System Research 09/06-06/07  
- Constructed the frame of SINS/GPS/GEO integrated navigation system with Federated Kalman Filter  
- Fulfilled the algorithm optimization and software simulation under MATLAB circumstance
- Integrated Navigation System Research based on MEMS Sensors 09/08-03/10  
- Investigated the influence of MEMS measurement errors on the outputs of integrated navigation system based on the physical attributes of MEMS sensors  
- Completed the software and hardware-in-loop simulation
- Quality Control in Automotive Manufacturing at Ford MAP 07/10-07/11  
- To solve the production quality problems in an automatic manufacturing line with the knowledge of statistical quality control
- Manufacturing Execution Systems Research at GM R&D Center 09/10-06/11  
To help GM develop their own production performance analysis systems and provide them with a literature review of MES
- GM Global Energy Management System Benchmark 03/11-present  
Cooperate with General Motor Company to benchmark the energy usage efficiency of GM global plants

### PUBLICATIONS

- C.L. Cai, **Y. Liu** and Y.W. Liu, Status Quo and Trend of Inertial Integrated Navigation System based on MEMS, *Journal of Chinese Inertial Technology*, Vol.17, No.5, Oct. 2009
- **Y. Liu**, C.L. Cai and C.L. Zheng, Electronic Integrated Unit and Information Quick-Processing Technology Applied in MEMS Guidance Navigation and Control System, *Navigation and Control*, Vol.8, No.4, Nov. 2009
- **Y. Liu**, G. Xiao and J. Ni. Literature Review on Manufacturing Execution

Systems, *Poster Sessions in IAB21 conference*, St. Louise, 2011

## **SKILLS**

### **Language**

Proficiency at listening, speaking, reading and writing in Chinese and English

### **Computer Skills**

C/C++ Programming, MATLAB, AUTO CAD

### **Workshop Training**

Lathe, Miller, Cutting, and CNC Machine Tools

## **ACTIVITIES**

Director of Robot Association, 2004-2005

Internship at an Institute of 3<sup>rd</sup> Academy of China Aerospace Science & Industry Corp.

Visiting scholar in S.M.Wu Manufacturing Center at University of Michigan at Ann Arbor

## **AWARDS**

People's Scholarship 2<sup>nd</sup> Class, Harbin Institute of Technology, 2006