

Kevin Matzen
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EDUCATION

University of Michigan, College of Engineering, GPA 3.876

Major in Computer Science Engineering, Minor in Mathematics

Junior year, Senior status

Course Highlights:

Math 475 Intro to Number Theory EECS 482 Intro to Operating Systems

EECS 475 Intro to Cryptography EECS 543 Knowledge Based Systems

Current Research: Working directly under Dr. Ella Atkins in the aerospace department at the University of Michigan designing, building, and programming a planetary rover. Current focus in the project is the use of visual SLAM, simultaneous localization and mapping, in order for the rover to map and understand its environment using a variety of sensors and cameras. Future work includes creating a high level AI scheduler for the rover to cooperate in a collective along with humans and other robots to perform complex tasks.

EXPERIENCE & ACTIVITIES

R&D Software Intern

National Instruments

Austin, TX
May – August 2008

Served as a member of the LabVIEW core interoperability team.

- Produced hardware plug-ins for LabVIEW 8.6's Simulation Interface Toolkit 5.0, a software package that allows interoperability between The MathWorks, Inc. Simulink and National Instruments LabVIEW for use in real-time HIL testing.
- Learned and utilized real-time and multicore programming techniques.
- Performed in-depth benchmarking as well as hardware and software testing on project.
- Tested LabVIEW 8.6 and Simulation Interface Toolkit 5.0 themselves in great detail in order to increase quality of the products before release at the end of the summer.
- Primary tools of development included C and LabVIEW's object oriented, graphical language, G.

Assistant in Research

Undergraduate Research Opportunities Program

Ann Arbor, MI
September 2007 – May 2008

- Worked with Catherine McGhan, a Ph.D. student, under Dr. Ella Atkins to develop a safe robotic arm manipulator for human-robot collaboration.
- Primary concepts include computer vision, artificial intelligence, multithreaded processing, and forward/inverse kinematics.

Intern

AeroMetric, Inc.

Sheboygan, WI
May – August 2007

AeroMetric, Inc. is a geospatial surveying firm providing services such as aerial photography, LIDAR imaging, and other forms of remote sensing.

- Proposed and implemented data management solutions to increase productivity, broaden communications, and increase efficiency. Redesigned company's entire database system. Converted from flat file database to relational. Provided tools and resources for future maintenance.
- Utilized C#, ASP.NET, SQL Server 2005, and Google Earth to design and implement a fully featured web-based flight and project management system.

Assistant in Research

Undergraduate Research Opportunities Program

Ann Arbor, MI
September 2006 – June 2007

- Served as a member of one of the University of Michigan's CanSat Competition teams.
- Performed trade studies on command and data handling components such as Atmel microcontrollers, GPS receivers, MEMS pressure sensors, and RF modems.
- Integrated sensors with microcontroller and coded project.

SKILLS

Key industry related skills include:

- Experience in Java, ANSI C, C++, HTML, Verilog, C#, Common LISP, Erlang, Python, Microsoft SQL Server 2005, National Instruments LabVIEW and interest in learning more languages and technologies.
- Experience with development under both Windows and Linux.
- Knowledge of elementary Japanese and interest in working abroad in Japan.

AWARDS & HONORS

Secretary, University of Michigan, CSE Scholars Program, 2007-2008.

Active Member/Server Chair, Eta Kappa Nu, Beta Epsilon Chapter, 2007.

William J. Branstrom Freshman Prize, University of Michigan, 2007.

Robert D. Holbrook Scholarship, University of Michigan, 2007.

University Honors, University of Michigan, 2006-2008.

Dean's List, University of Michigan, 2006-2008.