

Huseyin Atakan Varol

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Education

Ph.D in Electrical Engineering, Vanderbilt University, Expected August 2009.
Dissertation: Intelligent Control of a Powered Transfemoral Prosthesis
Advisors: Dr. Michael Goldfarb and Dr. Mitch Wilkes

M.S. in Electrical Engineering, Vanderbilt University, August 2007.
Thesis: Progress Towards the Intelligent Control of a Powered Transfemoral Prosthesis
Advisor: Dr. Michael Goldfarb

B.S. in Mechatronics, Sabanci University, July 2005.
Graduation Project: Visual Servoed Direct Drive SCARA Robot
Advisors: Dr. Mustafa Unel and Dr. Kemalettin Erbatur

Research Interest

- Intelligent Control & Decision
- Rehabilitation Robotics
- Biomedical Pattern Recognition and Classification
- Signal and Image Processing
- Real-Time and Embedded Systems

Internships

- BMW AG, Technology and Innovation Center, 7/2004 – 10/2004, Munich, Germany
- Festo Didactic, 7/2003 – 9/2003, Esslingen, Germany

Languages

- Turkish (Mother Tongue)
- English (fluent, CBT Toefl 287)
- German (fluent, Sprachdiplom Stufe II)

Undergraduate Research

- Visual Servoed Direct Drive SCARA Robot, Spring 2005
- Electrostatically Actuated Resonant Microaccelerometer Design, Fall 2004
- 8086 Based Audio Spectrum Analyzer, Spring 2004
- PLC Controlled Toy Factory using Industrial Automation Components, Spring 2004
- Rescue Robot Design, Spring 2004
- Ping-Pong Ball in Tube Control Experiment, Fall 2003
- Maxon DC Motor PID Control using DSPACE, Spring 2003
- BoeBot Mobile Robot Competition, Fall 2001

Teaching Experience

- **EE 214 - Fundamentals of Control and Communications**
Fall 2005, Vanderbilt University, Teaching Assistant, Instructor: Dr. Mitch Wilkes
- **EE 214 - Fundamentals of Control and Communications**
Spring 2006, Vanderbilt University, Teaching Assistant, Instructor: Dr. Benoit Dawant
- **EE 253 – Image Processing**
Fall 2005, Vanderbilt University, Teaching Assistant, Instructor: Dr. Richard Alan Peters

Honors and Awards

- **Best Technical Presenter in Session Award**, American Control Conference (2004).
- **Extracurricular Student Activities Award** for successes in robotic competitions, Sabanci University, Faculty of Engineering and Natural Sciences, (2004).
- **Best Technology Award**, TRT Robocon Robot Contest National Qualifications, (2003).
- **SU Merit Scholarship**, (2001-2005).
- 21st among 1.6 million applicants at Nationwide University Entrance Examination, (2001).
- **IS-Bank Outstanding Student Award**, (2001).

Publications

Refereed Conference Proceedings

1. * H. A. Varol, M. Goldfarb, "Real-time Intent Recognition for a Powered Knee and Ankle Transfemoral Prosthesis," 10th International Conference on Rehabilitation Robotics, 2007.
2. * H. A. Varol, M. Goldfarb, "Decomposition-Based Control for a Powered Knee and Ankle Transfemoral Prosthesis," 10th International Conference on Rehabilitation Robotics, 2007.
3. E. Kaplanoglu, H. A. Varol., H. S. Varol, "Trajectory Tracking Multivariable Decoupling PI Control For a Quadruple Tank System", Proceedings of the Intelligent Knowledge Society Conference 2005 (IKS 2005), 6-7 July, 2005.
4. * H. A. Varol, U. Tümerdem, M. Ünel, "Serbest Şekilli Nesnelerin Scara Robotun Görme Tabanlı Denetimi İle Manipülasyonu," Otomatik Kontrol Ulusal Toplantisi 2005 (TOK 2005), 2-3 June, 2005. (Turkish)
5. * H. A. Varol and Z. Bingul, "A New PID Tuning Technique Using Ant Algorithm," Proceedings of American Control Conference 2004 (ACC 2004), July 30 - June 02, 2004.

* Indicates oral presentation by Huseyin Atakan Varol.

Professional Experience

Memberships:

Institute of Electrical and Electronics Engineers (IEEE) (since 2001)
American Society of Mechanical Engineers (ASME) (since 2006)

Technical Reviews: Automatica, American Control Conference (ACC)

Computer Skills

Programming Languages: C++, Matlab (expert level), Assembly Languages (Intel, Motorola, PIC), G-Code for CNC machines.

Operating Systems: Linux, Unix, Windows.

Computer Aided Design: Pro-Engineer, Solid Works, Orcad.

Personal Data

Citizenship: Turkey
Date of Birth: 07/22/1982

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References:

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Mitch Wilkes, Ph.D.
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Electrical Engineering
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Asif Sabanovic, Ph.D.
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Sabanci University
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