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Joshua Migdal

Education

Massachusetts Institute of Technology, Cambridge Massachusetts.
2001-present

- studying for Ph.D. in Artificial Intelligence
- S.M., computer science, "robust motion segmentation using markov thresholds."
- 5.0 / 5.0 GPA

Tufts University, Medford, Massachusetts.
1997-2001

- B.S., computer science. Graduated summa cum laude.
- 3.94 / 4.00 GPA
- member Tau Beta Pi honor society

Experience

MIT Artificial Intelligence Laboratory, Cambridge, Massachusetts

Research Assistant *2001-present*
Created an algorithm for segmenting moving objects within the field of view of a stationary camera. Used this algorithm within the framework of the Human Identification at a Distance (HID) project in the pursuit of better gait recognition. Developed an extensive tracking infrastructure suitable for both near and far field tracking, which is being used to further the study of activity modeling and automatic surveillance.

Mitsubishi Electric Research Labs, Cambridge, Massachusetts

Research Intern *Summer 2004*
Led the effort to increase noise robustness on the DiamondTouch multiuser capacitatively coupled input tables through the use of direct sequence spread spectrum communication. Involved extensive hardware, software, and Matlab DSP hacking. Also created a very low cost Doppler ultrasound ranging and velocity sensor.

Research Intern *Summer 2002*
Worked on very low cost LED sensor communication under the direction of Bill Yerazunis and Joe Marks. Developed algorithms and sensor designs to extend the range and increase the communication bandwidth between two or more bidirectional LEDs.

Research Intern *Summer 2001*
Worked on speech recognition for cell phones under the direction of Bhiksha Raj and Bill Yerazunis. Developed an algorithm that outperforms the speech recognition accuracy of the WI-007 standard using the standard cell phone codec parameters directly.

Research Intern *1999-2000*
Worked on Artificial Retina (AR) Skunkworks project under the direction of Bill Yerazunis. Developed the AR research kit, PDA-mounted video device, and 3D stereo algorithms for depth perception and object tracking.

EMC^2, Hopkinton, Massachusetts

Development Intern *Summer 2000*
Worked in the API development group for the Symmetrix line of storage systems. Developed a circular ring buffer memory structure to store latest debug info in case of critical device error (similar in spirit to aircraft "black boxes").

Interests

skiing, mountain biking, tae kwon do, running