Thomas Feix

Curriculum Vitae
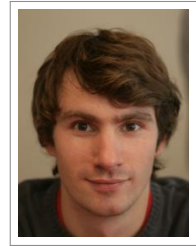
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Positions Held

2012 –	**Yale University**, *New Haven, CT, USA*, Post Doctoral Associate.
	Advisor: Prof. Aaron M. Dollar
	Human grasping statistics in unstructured environments
	Measuring human manipulation kinematics
2008 – 2012	**Otto Bock HealthCare GmbH**, *Vienna, Austria*, PhD Student.
	Working on the EU-FP7 research project GRASP (`http://www.csc.kth.se/grasp/`)
	Responsible for GRASP within Otto Bock
2007	**Olympic Centre**, *Linz, Austria*, Software engineer.
	Data acquisition and programming of an analysis software tool
2006 – 2007	**University of Vienna**, *Institute for Sport Science, Department of Biomechanics, Kinesiology and Applied Computer Science*, Internship.
	Continuing the development of a tennis racket test bench
	Working on master thesis

Education

2008 – 2011	**Vienna University of Technology**, *PhD Mechanical Engineering*, graduated with distinction.
	Supervisors: Prof. Heinz-Bodo Schmiedmayer (TU Vienna) and Prof. Danica Kragic (KTH Stockholm)
	PhD Thesis: "Anthropomorphic Hand Optimization based on a Latent Space Analysis"
2003 – 2007	**University of Applied Sciences Technikum Wien**, *Diploma Study Sports Equipment Technology*, graduated with distinction.
	Master thesis: "Construction and application of a modular ski test bench"
2004 – 2008	**University of Vienna**, *Diploma Study Physics*.
	completed 133 ETCS credits

Professional Activities

Refereeing

Journals	ASME Journal of Mechanisms and Robotics, IEEE Transactions on Robotics, Robotics and Autonomous Systems

Conferences	IEEE World Haptics Conference, IEEE-RAS International Confrence on Humanoid Robots, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), IEEE International Conference on Robotics and Automation (ICRA), IEEE Engineering in Medicine and Biology Society (EMBC), ACM/IEEE International Conference on Human-Robot Interaction (HRI)

Invited Talks

2014	*Modeling of Precision Grip in Primates*, Hand, Brain and Technology, CSF Conference, Monte Verità, Switzerland, September 7-12, 2014
2010	*GP-LVMs for studying human grasping actions*, Robotics: Science and Systems Conference, workshop on Representations for Object Grasping and Manipulation in Single and Dual Arm Tasks
2009	*Carving Kart: Standardisierte Vermessung unterschiedlicher Skitypen mit definiertem Aufkantwinkel*, New Ideas Challenge, Sport Innovations Symposium Lammertal, Austria

Memberships

IEEE	Institute of Electrical and Electronics Engineers
ÖSG	Österreichische Sportwissenschaftliche Gesellschaft, Austrian Sport Science Association

Teaching Experience

2014	**Developing and Assessing Students' Critical Thinking Skills**, *Yale University*. Attended a one-day workshop on alternative teaching approaches, modern classroom tools and student assessment.
2006 – 2007	**Teaching assistant**, *Introduction to sports informatics and statistics*. Supporting students during their assignments.
2006 – 2007	**Laboratory assistant**, *Biomechanical Motion Capture Methods*. Demonstration of measurement techniques (motion capture, high speed cameras, force plates) and assisting students during their projects.

Qualifications

Languages

German	Native language
English	Fluent
French	Elementary

Computer

Languages	Matlab, LabVIEW, R
CAD	Pro-Engineer, SolidWorks
Motion Capture	Peak Motus, Simi Motion, Vicon Nexus, Ascension TrakSTAR
Miscellaneous	Latex, MS Office, Inkscape, Ardiuno

Interests

Sports	Tennis, Badminton, Snowboard, Ski, Slacklining
Computer	Programming, internet, etc.
DIY	Some projects presented on `http://projects.xief.net`

Miscellaneous   Reading, travelling

Miscellaneous

2007   Inventor of patent AT 502801

2008   AUSTROMED seminar on Medicinal Devices Act

2008   Otto Bock product training lower & upper extremity

2010   10th International UJI Robotics School, Summer School on Robotic Grasping; 27.11.2010
        – 1.10.2010, Bennicassim, Spain

Publications

Thomas Feix, Tracy L. Kivell, Emmanuelle Pouydebat, and Aaron M. Dollar. Estimating thumb–index finger precision grip and manipulation potential in extant and fossil primates. *Journal of The Royal Society Interface*, 12(106), 2015.

I. M. Bullock, **T. Feix**, and A. M. Dollar. Workspace Shape and Characteristics for Human Two- and Three-Fingered Precision Manipulation. *IEEE Transactions on Biomedical Engineering*, to appear.

I. M. Bullock, **Feix, T.**, and A. M. Dollar. The Yale human grasping dataset: Grasp, object, and task data in household and machine shop environments. *The International Journal of Robotics Research*, 34(3):251–255, March 2015.

I. M. Bullock, **T. Feix**, and A. M. Dollar. Analyzing Human Fingertip Usage in Dexterous Precision Manipulation: Implications for Robotic Finger Design. In *IEEE/RSJ International Conference on Intelligent Robots and Systems*, September 2014.

T. Feix, I. M. Bullock, and A. M. Dollar. Analysis of Human Grasping Behavior: Correlating Tasks, Objects and Grasps. *IEEE Transactions on Haptics*, 7(4):430–441, October 2014.

T. Feix, I. M. Bullock, and A. M. Dollar. Analysis of Human Grasping Behavior: Object Characteristics and Grasp Type. *IEEE Transactions on Haptics*, 7(3):311–323, July 2014.

I. M. Bullock, **T. Feix**, and A. M. Dollar. Dexterous Workspace of Human Two- and Three-Fingered Precision Manipulation. In *IEEE Haptics Symposium*, February 2014.

J. Romero, **T. Feix**, C. H. Ek, H. Kjellstrom, and D. Kragic. Extracting Postural Synergies for Robotic Grasping. *Robotics, IEEE Transactions on*, 29(6):1342–1352, December 2013.

I. M. Bullock, **T. Feix**, and A. M. Dollar. Finding small, versatile sets of human grasps to span common objects. In *IEEE International Conference on Robotics and Automation*, May 2013. **Best Manipulation Paper Award - Finalist**.

T. Feix, J. Romero, C. H. Ek, H.B. Schmiedmayer, and D. Kragic. A Metric for Comparing the Anthropomorphic Motion Capability of Artificial Hands. *IEEE Transactions on Robotics*, 29(1):82–93, February 2013.

J. Romero, **T. Feix**, H. Kjellström, and D. Kragic. Spatio-Temporal modeling of grasping actions. In *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, October 2010.

T. Feix, R. Pawlik, H.B. Schmiedmayer, J. Romero, and D. Kragic. A Comprehensive Grasp Taxonomy. In *Robotics, Science and Systems Conference: Workshop on Understanding the Human Hand for Advancing Robotic Manipulation, Poster Presentation*, June 2009.

T. Feix. *Anthropomorphic Hand Optimization based on a Latent Space Analysis.* Phd thesis, Vienna University of Technology, Vienna, Austria, October 2011.

T. Feix. Aufbau und Einsatz eines modularen Skiprüfstandes. Master thesis, University of Applied Sciences Technikum Wien, Vienna, Austria, May 2007.

New Haven, April 16, 2015

Dipl.Ing(FH) Dr.techn. Thomas Feix