

James M. Bern

CONTACT	Stampfenbachstrasse 48 STD, G 27 8092 Zurich Switzerland	+41 78 739 31 66 jamesmbern@gmail.com jamesmbern.com
EDUCATION	ETH Zurich , Zurich, Switzerland PhD in Computer Science - Advisor: Prof. Stelian Coros	2017-2020 (expected)
	Carnegie Mellon University , Pittsburgh, PA MS in Robotics	2015-2017
	California Institute of Technology , Pasadena, CA BS in Mechanical Engineering - Minor in Computer Science - Minor in Control and Dynamical Systems	2011-2015
EXPERIENCE	Research Assistant , ETH Zurich, Zurich, Switzerland <i>Prof. Stelian Coros</i> , Dept. of Computer Science	2017-2020 (expected)
	Research Assistant , Carnegie Mellon University, Pittsburgh, PA <i>Prof. Stelian Coros</i> , Robotics Institute	2015-2017
	R&D Lab Associate , Disney Research, Pittsburgh, PA <i>Dr. Katsu Yamane</i>	Summer 2016
	Summer Research Fellow , MIT, Cambridge, MA <i>Prof. Daniela Rus</i> , MIT CSAIL	Summer 2014
PUBLICATIONS	[1] J. M. Bern, Y. S. Schnider, P. Banzet, N. Kumar, and S. Coros, Soft robot control with a learned differentiable model, in <i>RoboSoft</i> , 2020. [2] J. M. Bern, P. Banzet, R. Poranne, and S. Coros, Trajectory optimization for cable-driven soft robot locomotion, in <i>Robotics: Science and Systems (RSS)</i> , 2019. [3] D. Hahn, P. Banzet, J. M. Bern, and S. Coros, Real2sim: Visco-elastic parameter estimation from dynamic motion, in <i>ACM Transactions on Graphics (SIGGRAPH)</i> , 2019. [4] S. Zimmermann, R. Poranne, J. M. Bern, and S. Coros, Puppetmaster: Robotic animation of marionettes, in <i>ACM Transactions on Graphics (SIGGRAPH)</i> , 2019. [5] S. Duenser, J. M. Bern, R. Poranne, and S. Coros, Interactive robotic manipulation of elastic objects, in <i>IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)</i> , 2018.	

- [6] S. Ha, S. Coros, A. Alspach, J. M. Bern, J. Kim, and K. Yamane, Computational design of robotic devices from high-level motion specifications, in *IEEE Transactions on Robotics (T-RO)*, 2018.
- [7] J. M. Bern, K.-H. Chang, and S. Coros, Interactive design of animated plushies, in *ACM Transactions on Graphics (SIGGRAPH)*, 2017.
- [8] J. M. Bern, G. Kumagai, and S. Coros, Fabrication, modeling, and control of plush robots, in *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2017.
- [9] C. Sung, J. M. Bern, J. Romanishin, and D. Rus, Reconfiguration planning for pivoting cube modular robots, in *IEEE International Conference on Robotics and Automation (ICRA)*, 2015.

HONORS	1st Place, ACM SIGGRAPH Thesis Fast Forward	2019
	ACM SIGGRAPH Doctoral Consortium	2019
	JTCF Novel Technology Paper Award for Amusement Culture	2017
	CMU Presidential Fellowship	2016
	Caltech Campus Life and Masters Award	2014
	1st Place, Caltech 29th Annual Engineering Design Competition	2014

TEACHING	Teaching Assistant. ETH Zurich	
	Computational Models of Motion for Character Animation and Robotics	2020
	Visual Computing	2017-2019

	Teaching Assistant. California Institute of Technology	
	Decidability and Tractability	2015
	Introduction to Computer Graphics Laboratory	2014
	Introduction to Mechanical Design	2014
	Principles of Biology	2013

MENTORING	Master's students	
	M. Giger (2019), K.-H. Chang (2017)	

	Undergraduates	
	Y. Schnider (2019), P. Andreu (2018), P. Hadjimina (2018), D. Moro (2017), D. Russell (2017), G. Kumagai (2016), Y. Su (2016)	

SKILLS	Expertise: Robotics, Graphics, Optimization, Simulation, Rapid Prototyping	
	Programming : Python, C, C++, C#, JS, MATLAB, Mathematica, OpenGL	