TIM DORN

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EMPLOYMENT

Data Engineer	Facebook (CA, USA)	2014 - present
	Growth and Analytics	

- Responsible for designing, building and launching new data models and data ETL processes for ad related products.
- Interface with engineers, product managers, and product analysts to understand data needs and inform product design.

Postdoctoral Fellow	Stanford University (CA, USA)	2012 - 2014
	Department of Bioengineering	

- Developer on the OpenSim API (C++). OpenSim is an open source biomechanical modeling and simulation API. Current user base of ~15,000, 100,000+ downloads (http://opensim.stanford.edu/)
- Architect for API tools in the domain of simulating human motion. Tools relied heavily on techniques in numerical optimization, biological human modeling, reflex feedback control, and physiological metabolic cost estimation.
- DARPA Warrior Web Project: Used machine-learning techniques to predict optimal walking and running patterns using evolutionary optimization algorithms on parallel processing machines (Amazon Elastic Cloud – EC2).
- 3 peer-reviewed journal papers and 3 conference abstracts published (www.timzone.net).
- David Winter Young Investigator Award Finalist at the International Society of Biomechanics Congress (August 2013).

PhD Candidate	University of Melbourne (VIC, Australia)	2007 - 2012
	Department of Mechanical Engineering	

- Designed experimental protocols for capturing 3D human motion data and ETL pipelines for processing and analysis.
- Thesis: Generated computational 3D simulations of human running based on experimental motion capture data to investigate the muscle coordination strategies across individual muscles across multiple speeds of running.
- 6 peer-reviewed journal papers and 3 conference abstracts published (www.timzone.net).

EDUCATION

PhD., Mechanical Engineering, University of Melbourne, Australia (2007-2012)
B.S., Mechanical Engineering, University of Melbourne, Australia (2002-2007)   GPA 3.9
B.S., Computer Science, University of Melbourne, Australia (2002-2007)   GPA 3.8
      ExxonMobil Dean's Honors List Award (top 3% of undergraduate students) (2006)

TEACHING

Head teaching assistant, BMEN09922: Computational Biomechanics, University of Melbourne (2009-2011).
Organizer of > 10 OpenSim workshops globally. Delivered tutorials, lectures and software demos (2012-2013).
Graduate student supervision of two students, Dept. of Bioengineering, Stanford University (2012-2013).

SOFTWARE

IDEs: Visual Studio, Eclipse, Sublime • **Programming:** C, C++, Java**,** MATLAB, Octave, Python • **Statistics:** R, SPSS
Databases: Hive (Hadoop), MySQL, HP Vertica, Oracle • **Web:** PHP, HTML, CSS • **Version Control:** Git, Mercurial, SVN
Motion Capture: Vicon Nexus, Visual3D • **Physics Simulation:** OpenSim, Simbody • **Side projects:** see personal website