BO YANG

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WORKING EXPERIENCE

■ **Software Engineer at LinkedIn** **2019/07/22 - now**

– Developed and maintained offline flows to process LinkedIn's talent market data.

– Maintained an online data platform that provides daily processed data in a distributed relational database to be queried.

– Developed machine learning models to detect anomaly and insights on LinkedIn's talent market time-series data.

– Developed a recommendation system that detects customer's interest, based which do insight recommendations.

– Developed an online URL alias system to support URL links sent through notification emails.

– Developed backend and front end services and resources for LinkedIn's data product: Talent Insights.

■ **Software Engineer Intern at LinkedIn** **2019/01/28 - 2019/04/26**

– Designed LinkedIn Talent Insights (LTI) talent pool report recommendation system.

– Implemented the off-line ETL flow using Scala spark to generate talent pool report for each LTI customer.

– Implemented the backend and front end to provide service and resource of the talent pool recommendation.

– Used the tracking data of customer's reaction to the recommendation for intention deduction.

■ **Deep Learning Intern at TianMing Data Science Technology** **2017/12/14 - 2018/01/14**

– Developed deep convolutional neural network (CNN), including resnet and densenet, to conduct pneumoconiosis diagnosis using chest x-ray images. Related skils included artificial intelligence (AI) and distributed algorithm.

– Developed Python classes and scripts for medical image analysis.

– Developed algorithms for data augmentation and label quality check.

– Developed deep CNN models using mxnet and gluon and deploy them for inference (80%+ accuracy).

■ **Graduate Student Researcher at Berkeley Biomechanics Lab** **2017/05/14 - 2018/08/14**

– Developed numerical models of intervertebral disc based on the Computer Tomography (CT) and Magnetic Resonance (MR) images.

– Used parallel computation and machine learning, and other techniques in the model development.

– Used these models to study disc mechanics, disc degeneration, and recovery strategies.

– Developed algorithm to process spine x-ray images and designed software to help spine surgeons improve a spine fusion surgery.

■ **Graduate Student Instructor at University of California, Berkeley** **2014/06/01 - 2018/12/31**

– Time periods: 2014/06-2014/12, 2015/08-2015/12, 2016/08-2016/12, 2018/08-2018/12

– Including one semester Leader GSI of a 260-student MATLAB programming class (Engineering 7).

– Lead 6 other GSIs to prepare and grade homeworks and exams, give lab sessions, and hold office hours.

EDUCATION

2015 - 2019 University of California, Berkeley, Ph.D, Computational Biomechanics, (Advisor: Grace O'Connell)
Dissertation: Simulating Intervertebral Disc Mechanics Using Finite Element Method

2013 - 2015 University of California, Berkeley, M.S., Ocean Engineering, (Advisor: Ronald Yeung)
Theis: The launching of a prolate-spheroidal body in a deep fluid and its descending trajectory

2009 - 2013 Dalian University of Technology, B.S., Naval Architecture and Ocean Engineering

AWARDS

2018 ASME-BED Student Travel Bursary for the 8th World Congress of Biomechanics
2017 - 2018 Signatures Innovation Fellows URL
2017 Summer Biomechanics Bioengineering Biotransport Conference Ph.D. paper competition finalist
2017 ASME-BED Student Travel Bursary Summer Biomechanics Bioengineering Biotransport Conference
2016 Graduate Division Block Grant Award
2015 The J. K. Zee Fellowship
2015 Graduate Division Block Grant Award
2014 Jaehne Graduate Scholarship
2012 The Lloyd's Register Educational Trust Scholarship
2011 Daoda Enterprise Scholarship

JOURNAL PUBLICATIONS

Yang B, Klineberg E, O'Connell GD. Intervertebral Disc Mechanics with Nucleotomy: Differences between Simple and Dual Loading. Journal of Biomechanical Engineering. 2021 in press.

Yang B, Wendland MF, O'Connell GD. Direct Quantification of Intervertebral Disc Water Content Using MRI. Journal of Magnetic Resonance Imaging. 2020 Apr 27.

Yang B, O'Connell GD. Intervertebral disc swelling maintains strain homeostasis throughout the annulus fibrosus: a finite element analysis of healthy and degenerated discs. Acta Biomaterialia. 2019 Dec 1;100:61-74.
Yang, B, Lu Y, Um C, O'Connell GD. Relative nucleus pulposus area and position alter disk joint mechanics. Journal of biomechanical engineering. 2019 May 1;141(5).
Yang, B, O'Connell GD. GAG content, fiber stiffness, and fiber angle affect swelling-based residual stress in the intact annulus fibrosus. Biomechanics and modeling in mechanobiology. 2019 Jun 15;18(3):617-30.
Yang, B, O'Connell GD. Swelling of fiber-reinforced soft tissues is affected by fiber orientation, fiber stiffness, and lamella structure. Journal of the mechanical behavior of biomedical materials. 2018 Jun 1;82:320-8.
Yang, B, O'Connell GD. Effect of collagen fibre orientation on intervertebral disc torsion mechanics. Biomechanics and modeling in mechanobiology. 2017 Dec 1;16(6):2005-15.

PATENTS

Yang B, Huang B, Guo S, Reeves R, Gao W, Driscoll P, Ryan K, Jennings M, Lwanga J, Kazi M, Reversal-point-based Detection and Ranking. 2020 applied, application number: us 17/116184.
Guo S, Driscoll P, Jennings M, Reeves R, **Yang B**, Time Series Anomaly Detection. 2020 applied, application number: us 17/133222.
Guo S, Reeves R, **Yang B**, Gao W, Tang W, Driscoll P, Zhou S, Burfield T, Meza A, Time Series Anomaly Ranking. 2020 applied, application number: us 17/133259

CONFERENCE ABSTRACTS

Yang B, Wendland MF, Ma Y, O'Connell GD. Direct Quantification of Intervertebral Disc Water Content Using Magnetic Resonance Imaging. Summer Biomechanics, Bioengineering, and Biotransport Conference, Seven Springs, Pennsylvania 06/2019
Yang B, O'Connell GD. Residual Stress and Pressure Formation Due to Swelling of Tissues within the Intervertebral Disc. Annual Orthopaedic Research Society meeting, 03/2019
Yang B, Lu Y, Um C, O'Connell GD. Nucleotomy Increases Disc Bending Stiffness under Complex Loading Modalities. The 8th World Congress of Biomechanics Meeting, Dublin, Ireland, 07/2018.
Yang B, O'Connell GD. Residual Strain in the annulus fibrosus decreases with disc degeneration. The 8th World Congress of Biomechanics Meeting, Dublin, Ireland, 07/2018.
Yang B, Um C, Lu Y, O'Connell GD. Effect of Nucleus Pulposus Size and Location on Internal Stresses in the Intervertebral Disc. The 8th World Congress of Biomechanics Meeting, Dublin, Ireland, 07/2018.
Yang B, O'Connell GD. Effect of osmotic swelling in soft tissue is dependent on collagen fiber orientation. Summer Biomechanics, Bioengineering, and Biotransport Conference (SB3C), Tucson, AZ 06/2017.
Yang B, Habtegebriel YB, Ma Y, Wendland MF, O'Connell GD. A semi-automated approach for creating a subject-specific finite element model of the intervertebral disc. Summer Biomechanics, Bioengineering, and Biotransport Conference (SB3C), Tucson, AZ 06/2017.
Yang B, Jbaily A, Yintong L, Szeri AJ, O'Connell GD. Lung micromechanics of pulmonary fibrosus: A finite element analysis. Summer Biomechanics, Bioengineering, and Biotransport Conference, Tucson, AZ 06/2017.
Yang B, Zhou M, O'Connell GD. Osmotic Swelling Alters Tissue Mechanics in Fiber-Reinforced Tissues. Annual Orthopaedic Research Society Meeting, San Diego, CA, 03/2017.
Yang B, Zhou M, O'Connell GD. Detailed Finite Element Modeling of Fiber-Reinforced Tissues. Summer Biomechanics, Bioengineering, and Biotransport Conference, National Harbor, MD, 06/2016.
Yang B, O'Connell GD. Effect of Annulus Fibrosus Collagen Orientation on Intervertebral Disc Torsional Mechanical Behavior. Annual Orthopaedic Research Society Meeting, Orlando, FL, 03/2016.

CONFERENCE & INVITED TALKS

2019	Direct Quantification of Intervertebral Disc Water Content Using Magnetic Resonance Imaging Summer Biomechanics Bioengineering Biotransport Conference (Seven Springs,PA)
2018	Residual Strain in the Annulus Fibrosus Decreases with Disc Degeneration 8th World Congress of Biomechanics (Dublin, Ireland)
2018	Nucleotomy Increases Disc Bending Stiffness under Complex Loading Modalities 8th World Congress of Biomechanics (Dublin, Ireland)
2017	Effect of Osmotic Swelling in Fiber-reinforced Soft Tissues is Dependent on Collagen Fiber Orientation Summer Biomechanics Bioengineering Biotransport Conference (Tucson, AZ)
2016	Effect of Annulus Fibrosus Collagen Orientation on Intervertebral Disc Torsional Mechanical Behavior Orthopaedic Research Society (Orlando, FL)

PROFESSIONAL ACTIVITIES

2016 - 2017 ASME Student Member .