Henry Z. Xu

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Professional Experience

Delta V Biomechanics   *Palo Alto, CA*

Provided expert biomechanics witness support in product defect litigation. Services included consultations, written reports, depositions, and trial testimonies.

Independent Consultant (2018-Present)
- Organized the transition of existing projects and transfer of clients to full time employees.
    - Provided expertise when requested on a consulting basis.

Senior Managing Engineer (2013-2018)
- Led cross functional teams consisting of doctors, administrators, and engineers to present medical and engineering expertise to external stakeholders.
    - Managed the lifecycle of 200+ projects to help clients reduce multimillion dollar claims by over 90%.
    - Defined project benchmark dates to ensure completion by court-imposed deadlines.
    - Utilized understanding of engineering and litigation concepts to identify client needs to create and negotiate project proposals, generating over $5M in additional revenue.
    - Distributed resources for 40+ concurrent projects to meet goals while staying within budgetary restrictions.
    - Directed onboarding for engineering and administrative new-hires, reducing transitional costs by over 50%.
    - Oversaw and evaluated engineering, administrative, and medical staff performance.

Biomechanical Engineer (2011-2013)
- Performed biomechanics analysis to determine accidental injury causation.
    - Developed new simulation programs with Matlab, valued at $40k+/year.
    - Introduced and implemented company 3D animation and visualization capabilities with 3ds Max, increasing testimony revenue by over 25%.
    - Conducted 20+ testing projects with human and dummy subjects to determine injury biomechanics, generating an income of $100k+.
    - Designed and manufactured mock-ups to convey injury biomechanics to non-technical clientele.
    - Self-educated on previously unfamiliar topics to provide expertise to external and internal stakeholders.

Personal Projects

Autonomous Miniature Robotic Vehicle (2018-Present)
- Designed and manufactured a mechatronic vehicle to autonomously navigate past obstacles while reaching its destination.
    - Researched and purchased components necessary to meet design objectives.
    - Modeled and constructed a vehicular steering system to measure feedback and provide autonomous control signals.
    - Applied ultrasonic sensors and optical encoders to measure vehicle dynamics.
    - Utilized a Raspberry Pi computer with Python scripting to create a control system with custom architecture and state machines.
    - Optimized control parameters through simulations and collection of empirical data.

Education

University of Michigan, Class of 2011   *Ann Arbor, MI*

BSE Mechanical Engineering, G.P.A.: 3.65/4.0

Publications
- Hovey CB, Raphael EH, Xu H.Z. Validation of Occupant Trajectory Model using the Ford Expedition Dolly Rollover Experimental Test Data. Society of Automotive Engineers International Congress and Exposition. Paper No. 2013-01-0472, Detroit, MI, April 16-18, 2013.
- O'Connor SM, Xu HZ, Kuo AD. Energetic cost of walking with increased step variability. Gait Posture. 2012 May; 36(1):102-7.

Software	Python, Linux, Matlab, 3D Cad, LabVIEW, 3ds Max, Microsoft Office
Activities	Teaching volunteer with Science is Elementary (SiE), Piano, Running, Rock Climbing, Robotics
Languages	Fluent in English and Mandarin, US Citizen