Chen Chen

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EDUCATION BACKGROUND

Ph.D. in Biomedical Engineering (Expected 5/2019) **9/2013-Present**
Information Theory / Bio-inspired Algorithms and Bio-mimetic Robotics (GPA 3.8/4.0) ***Northwestern University***

Bachelor of Engineering in Biomedical Engineering **9/2009-6/2013**
Biomedical Instrumentation Track (Graduated with Honor) *Zhengzhou University*

EXPERIENCES

Co-Founder and CTO **06/2017-05/2018**
PrydeVR (ShareVR LLC)

- Graduated as top 1 team at Northwestern's entrepreneurship class NUvention Web and Media, incubated at the Northwestern Garage's Wild Fire summer pre-accelerator program and won $10,000 scholarship, and was featured on various Northwestern News
- Conducted extensive interview with more than 20 VR developers across diverse background to identify key issues in VR
- Established business relationship with 7 VR companies ranging from gaming to advertising industry
- Led team built and shipped a high-performance Unity Engine plugin as SaaS service (on AWS) that delivers high-performance in-VR gameplay video capture and direct social media sharing for VR players
- Launched product publicly with *Sairento VR* (top 10 VR game of 2017) on Steam, engaged with over 20,000 VR players, and have recorded more than 1,000 private and 300 public YouTube videos.

Graduate Research Assistant **11/2013-Present**
Neuroscience and Robotics Lab (NxR), Northwestern University

- Graduated from the leadership coaching program at Northwestern University's Center for Leadership
- Led a cross-disciplinary team to build a real-time 3D tracking and reconstruction system using 4 grayscale cameras. Image feature extraction, triangulation (SfM, bundle adjustment), and machine learning algorithms (convolutional neural networks)
- Created an open-source solution that uses HTC Vive's LightHouse tracking system for low-cost, high-speed (>250Hz), and accurate motion capture. Solution adopted by student projects at the Data as Art class held by Northwestern University and the Art Institute of Chicago
- Proposed a novel information theoretic framework for optimal path planning under sensory signal degradation and high uncertainty
- Developed the first automated fish fin tracking and reconstruction algorithm (using optical flow) and presented in SICB 2015 conference
- Designed multiple advanced experimental apparatus including a state-of-the-art closed-loop animal behavior jamming system
- Presented research at the Society for Neuroscience (2015, 2018), Society for Integrative and Comparative Biology (2015), Symposium on Adaptive Motion of Animals and Machines (2015), and Winter Workshop on Neuromechanics and Dynamics of Locomotion (2016)

Graduate Teaching Assistant **09/2015-12/2018**
Department of Biomedical Engineering, Northwestern University

- Teaching assistant and course advisor of ME 224 "Experimental Engineering – Learning Python with Embedded System"
- Course advisor of DSGN395 "Data as Art" jointly held by Northwestern University Segal Design Institute and the Art Institute of Chicago
- Teaching assistant and discussion instructor of BME 301 "Systems Physiology - Nervous System"

Undergraduate Research Assistant **10/2010-06/2013**
Industrial Robotics Laboratory and Intelligent Computing Laboratory, Zhengzhou University

- Proposed a real-time bio-inspired optimization algorithm for l0-norm minimization (NP-hard) in image sparse decomposition tasks, the result was published on Lecture Notes on Artificial Intelligence (LNAI) and made open-source on GitHub
- Built an autonomous model car powered by computer vision and optimal control algorithms running on a 16-bit ARM Cortex M4 MCU
- Held three patents in China (China, ZL 2010 1 0586636.0, ZL 2011 2 0309506.2 and ZL 2011 2 0171285.7)

SELECTED AWARDS & HONORS

Recipient (as a team) of the Northwestern University "Wild Fire" pre-accelerator scholarship ($10,000)	**2017**
1st prize in the 1st Wo-China Unicom's Entrepreneurship Competition	**2012**
1st Prize and **2nd Prize** in Zhengzhou University ACM Programming Contest	**2011 & 2012**
Top 10 project in the 4th Chinese University Students' Creativity Forum (Top 1% nation-wide)	**10/2011**
Enterprise Scholarship for outstanding student in innovation	**2011**
3rd Prize in the 2010 International Contest of MEMS and Internet of Things	**10/2010**

SKILLS

Programming Languages: Proficient in modern C++, C, C#, Python, MATLAB; Familiar with TypeScript, Java, eLua
Computer Vision and Graphics: Proficient in Computer Vision (OpenCV, SLAM, Visual Odometry, SfM, Bundle Adjustment), Computational Photography, Game Engine (Unity3D), Graphics API (Vulkan, OpenGL), Ray Tracing (PBRT)
Cloud Architecture: Experience with Distributed Computing (MPI), Serverless Architecture (AWS, Google Cloud), SaaS platform API development, Containers (Docker and Singularity)
Optimization and Statistics: Proficient in Machine Learning, Evolutionary Algorithms, Information Theory, Bayesian Statistics (MLE, MAP)