

JIANYI DU

Apt #8, 344 Northwestern Ave, West Lafayette, IN 47906
 dujianyi@gmail.com · iamjianyidu.com · (765)479-5081

Education Experience

Bachelor of Science in Mechanical Engineering GPA:3.99/4.00

(as Dual-degree exchange student)

Purdue University - West Lafayette, Indiana, USA. May 2016 expected.

Bachelor of Science in Mechanical Engineering

GPA:89.00/100 (Ranking: 5/84)

Shanghai Jiao Tong University, Shanghai, China. June 2016 expected.

Key Skills

- Programming: C/C++, Python, Lua, MATLAB (Platform: Linux/Windows)
- Functional Printing of Liquid Metal
- Image Processing
- PIC Microchip Design
- System Modeling and Simulation

Professional Experience

Research Assistant: Inkjet/Direct Writing Printer for Liquid Metal

Dec 2014 – Present

Laboratory, School of Mechanical Engineering, Purdue University

AD: Rebecca Kramer

- A functional printer for both ink-jetting and direct writing of liquid metal (eGaIn);
- A dynamical controller to stabilize the printing height with high-precision laser sensor;
- The graphical interface of the printer software;
- Test-printed different patterns for characterization on both printers.

Research Fellowship: Contact Angle Measurer for Sessile Drops

May 2015 – Aug 2015

Laboratory, School of Mechanical Engineering, Purdue University

AD: Rebecca Kramer

- An innovative algorithm to calculate the sessile drop contact angle with Generalized Hough Transform;
- The graphical interface of the contact angle measurer;
- Implement of the measurer to other lab projects;
- A publication in preparation.

Research Internship: Deep Learning Neural Network

Oct 2014 – Present

Teradeep, Inc / e-lab, School of Biomedical Engineering, Purdue University

AD: Eugenio Culurciello

- An efficient converter between two deep learning frameworks (torch/cafe);
- Involvement in the automobile project: *video-framer & -processor*;
- *vid2img* (video to image) tool to track objects in the video;

Research Assistant: Simulation of Electrical Discharge Machining (EDM) Process

Apr 2014 – Present

(Part of National Natural Science Foundation of China project # E050902)

AD: Jingyu Pei

The State Key Laboratory of Mechanical System & Vibration, Shanghai Jiao Tong University

- Simulation of fix-length compensation milling with established geometric model to verify its accuracy;
- Simulation and improvement of the electric field model in an attempt to physically explain the tool wear;
- One paper published, the other in preparation.

Student Researcher: Mars Rover Wheel-Control Algorithm

Sept 2013 – June 2014

(Part of National Natural Science Foundation of China project # F030601)

AD: Qixin Cao

Robotic Lab, School of Mechanical Engineering, Shanghai Jiao Tong University

- Set up the experimental platform for wheel-ground interaction;
- Design of a theoretical controlling algorithm with reinforcement learning;
- Experiments on a single wheel for the optimized algorithm parameters to stabilize the slipping ratio.

Publications

Journals:

1. Lenan Zhang, **Jianyi Du**, Xiaoshun Zhuang, Zhiliang Wang, and Jingyu Pei, "Geometric prediction of conic tool in micro-EDM milling with fix-length compensation using simulation", *International Journal of Machine Tools and Manufacture*, February 2015.
2. Jingyu Pei, Lenan Zhang, **Jianyi Du**, Xiaoshun Zhuang, Zhaowei Zhou, and Shukun Wu, "A model of tool wear in electrical discharge machining process based on electromagnetic theory", *International Journal of Machine Tools and Manufacture*, under review.
3. **Jianyi Du**, and Rebecca Kramer, "A new method to automate calculation of contact angle for sessile drops with extended Generalized Hough Transform", *Colloid and Surfaces A: Physicochemical and Engineering Aspects*, prepare to submit.

Symposium Abstract:

1. Jianyi Du, J. William Boley, and Rebecca K. Kramer, "Integrating Systems for Liquid/Substrate Characterization and Functional Printing" (August 6, 2015). *The Summer Undergraduate Research Fellowship (SURF) Symposium*. Paper 125.

Honors

Summer Undergraduate Research Fellowship Purdue University	May 2015 – Aug 2015
Dean's List and Semester Honors Purdue University	Fall 2014, Spring 2015
SMC Corp. First-Class Scholarship (Top 3%) Shanghai Jiao Tong University	Sept 2014
Honorable Mention US Mathematical Contest in Modeling 14'	Feb 2014
First Prize English Speaking Contest 12', Shanghai Jiao Tong University	Sept 2012
First Prize, with Admission to College National Olympiads in Informatics in Provinces (NOIP) of China 11'	Oct 2011

Responsibilities

President "Chun-Tsung Endowment" Undergraduate Research Internship Students' Committee Shanghai Jiao Tong University	Apr 2014 – June 2015
<ul style="list-style-type: none"> • Chief executive: budget & activity management / project execution; • Team building: member recruiting / team training; • Publicity and sponsorship attraction. 	
Vice Manager in Publicity Student Government, School of Mechanical Engineering Shanghai Jiao Tong University	June 2014 – June 2015
<ul style="list-style-type: none"> • Sponsorship attraction; • Campus-wide publicity; 	
Community volunteer Kiwanis Circle K, Purdue University	Feb 2015 - Present
<ul style="list-style-type: none"> • "Bingo" game with veterans at Veterans' Home 	
Volunteer 2013 Shanghai International Marathon	Sept 2013

Motto

"Have the courage to follow your heart and intuition. They somehow already know what you truly want to become. Everything else is secondary."
--- Steve Jobs