Chunpeng James Chen
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EDUCATION

2016-2021	**Washington State University, Pullman, WA, USA**
	Ph.D.
	Dissertation: A Paradigm Shift in Breeding: From Genomics to Phenomics
2010-2014	**National Taiwan University, Taipei, Taiwan**
	B.S.

PROFESSIONAL POSITIONS

03/2021 ~ Present	**Postdoctoral Associate**
	Department of Animal Science, University of California, Davis,
	Davis, CA, USA
08/2016 ~ 12/2020	**Graduate Research Assistant**
	Department of Crop and Soil Sciences, Washington State University,
	Pullman, WA, USA
06/2019 ~ 08/2019	**Biostatistician Intern**
	Department of Research and Development, BASF,
	West Sacramento, CA, USA
04/2016 ~ 06/2016	**Research Assistant**
	Institute of Plant and Microbial Biology, Academia Sinica, Taiwan
10/2015 ~ 03/2016	**Data Analyst**
	Yu-Shun International Cultural CO., LTD, Taipei, Taiwan
10/2014 ~ 09/2015	**Corporal**
	564 Armor Brigade, 8th Army Corps, Republic of China Army,
	Taiwan

TEACHING EXPERIENCE

06/2021 ~ Present	**Undergrad Intern Training**
	Department of Animal Science, University of California Davis
	Davis, CA, USA
05/2018	**Guest Lecture**
	Introduction to Machine Learning and Ensemble Methods
	Statistical Genomics (CropS 545) at Washington State University
02/2017	**Guest Lecture**
	Principal Component Analysis
	Statistical Genomics (CropS 545) at Washington State University
Spring 2017	**Teaching Assistant**
	Statistical Genomics (CropS 545) at Washington State University

PROFESSIONAL ACTIVITIES

Oral Presentation

Apr 2021	**WSU Crop Sciences Exit Seminar**
	A Paradigm Shift in Breeding: From Genomics to Phenomics
Feb 2021	**WSU Plant Sciences Retreat 2021**
	GRID: a Python Package for Aerial High-Throughput Phenotyping
Jan 2020	**Plant and Animal Genome 2020**
	GRID: a Python Package for Aerial High-Throughput Phenotyping
Jan 2019	**Wheat Quality Council 2019**
	Toward Instant, Non-Destructive Prediction of Wheat Hagberg-Perten Falling Number
Jan 2019	**Plant and Animal Genome 2019**
	iPat: A Genomics Analysis Tool for Everyone
Jan 2019	**Plant and Animal Genome 2019**
	Toward Instant, Non-Destructive Prediction of Wheat Hagberg-Perten Falling Number
Mar 2018	**WSU Plant Sciences Retreat 2018**
	GWAS and GS are as easy as clicking and dragging with iPat.
Feb 2018	**World Congress on Genetics Applied to Livestock Production 2018**
	GWAS and GS are as easy as clicking and dragging with iPat.
Jan 2018	**Plant and Animal Genome 2018**
	iPat: Intelligent Prediction and Association Tool for Genomic Research
Nov 2017	**WSU Crop Sciences Proposal Seminar**
	Application of Random Forest in Genomics Selection
May 2017	**Plant and Animal Genome Asia 2017**
	iPat, a Versatile Tool for Genomics Studies
May 2017	**Plant and Animal Genome Asia 2017**
	Segregation Analysis and Its Implementation in iPat

Poster Presentation

Mar 2018	**WSU Plant Science Symposium 2018**
	iPat: intelligent prediction and association tool for genomic research
Jan 2018	**Plant and Animal Genome 2018**
	iPat: Intelligent Prediction and Association Tool for Genomic Research
May 2017	**Plant and Animal Genome Asia 2017**
	Intelligent prediction and association tool for genomic research
Jan 2017	**Plant and Animal Genome 2017**
	iPat: Interface of Prediction and Association for Genomics

Ad Hoc Reviewer (3)

Bioinformatics (1), Crop & Pasture Science (1), and PLoS One (1)

SOFTWARE DEVELOPED

- GRID: A Python Package for Aerial High-Throughput Phenotyping (http://zzlab.net/GRID and https://poissonfish.github.io/GRID/index.html)
- iPat: Intelligent Tool for Prediction and Association (http://zzlab.net/iPat and https://github.com/Poissonfish/iPat).

FOUNDING RECEIVED

- Washington Wheat Foundation, $3,238, Principal Investigator, "Instant and non-destructive prediction of wheat Hagberg falling number from hyperspectral imaging by using parallel computation with graphics processing units (GPU)", November 8, 2018 – November 7, 2019,
- Travel grant of International Conference of Plant and Animal Genome, 2018, $1,300

PUBLICATIONS (10)

First / Co-first Authorship (5)

1. **Chen, C.J.** and Zhang, Z. (2020) GRID: A Python Package for Field Plot Phenotyping Using Aerial Images. Remote Sensing, 12, 1697..
2. Liu, L., Zhou, J., **Chen, C.J.** et al. (2020) GWAS-based identification of New Loci for Milk Yield, Fat, and Protein in Holstein Cattle. Animals 10, 2048.
3. Zhou, J., Liu, L., **Chen, C.J.** et al. (2019) Genome-wide association study of milk and reproductive traits in dual-purpose Xinjiang Brown cattle. BMC Genomics 20, 827.
4. **Chen C.J.**, Zhang, Z. (2018) iPat: intelligent prediction and association tool for genomic research. *Bioinformatics, 34, 1925-1927*.
5. **Chen C.J.**, Zhang, Z. (2018) GWAS and GS are as easy as clicking and dragging with iPat. *The World Congress on Genetics Applied to Livestock Production*.

Co-Authorship (1)

1. Tang, Z., Parajuli, A., **Chen, C.J.,** Hu, Y., Revolinski, S., Medina, C.A., Lin, S., Zhang, Z., and Yu, L.-X. (2021) Validation of UAV-based alfalfa biomass predictability using photogrammetry with fully automatic plot segmentation. Scientific Reports 11, 3336.

Under Publication (4)

1. **Chen, C.J.**, Morota, G., and Cheng, H. (2021). Tracking Livestock Behaviors with Labor-Free Approach.
2. **Chen, C.J.**, Garrick, D., Fernando, R., Karaman, E., and Cheng, H. (2021). XSim Version 2: Simulation of Modern Breeding Programs
3. **Chen, C.J**. and Cheng, H. (2021). LMMonBoard: An Interactive Dashboard for Visualizing Mixed Models in Quantitative Genetics
4. **Chen, C.J.,** Rutkoski, J., Schnable, J., Murray, S., Wang, L., Jin, X., Stich, B., Crossa, J., Hayes, B, and Zhang, Z. (2021). Harnessing Agronomics Through Genomics and Phenomics in Plant Breeding: A Review.

PROGRAMMING PROFESSION

Python, R, Julia, Java, C, C++

AWARDS

2018-2021	Roscoe and Frances Cox Scholarship
2018-2020	Vogel Washington State Crop Improvement Association Scholarship
Oct, 2017	2nd place for the 3rd Annual WSU Hardware Hackathon
Jun, 2017	Winner of Student Workshop Competition at PAG Asia