

Junxian Huang

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Employment

Founder & CEO, **StarHelix Inc.**, Nanjing, China (August, 2022 - Present)
Associate Professor, **Nanjing Agricultural University**, Nanjing, China (March, 2021 - Present)
Founder & CEO, **BeeCloud Inc.**, Beijing, China (September, 2015 - February, 2021)
Senior Software Engineer, **Google**, Mountain View, CA (August, 2013 - August, 2015)
Research intern, **AT&T Labs Research**, Florham Park, NJ (May, 2012 - August, 2012)
Research intern, **Microsoft Research Silicon Valley**, Mountain View, CA (May, 2010 - August, 2010)
Research intern, **Microsoft Research Asia**, Beijing, China (June, 2007 - January, 2008)

Education

Ph.D. Computer Science and Engineering, *University of Michigan*, Ann Arbor (April, 2010 - May, 2013)
Supervisor: Prof. Z. Morley Mao
M.S. Computer Science and Engineering, *University of Michigan*, Ann Arbor (August, 2008 - April, 2010)
Supervisor: Prof. Z. Morley Mao
B.S. Computer Science and Technology, *Tsinghua University*, Beijing (July, 2004 - July, 2008)
Member of Special Pilot Andrew Chi-Chih Yao Class

Research Interests

Computer Vision; Bioinformatics; Machine Learning; IoT Sensor System; Automated AI System

Publications

UniAMP: Enhancing AMP Prediction using Deep Neural Networks with Inferred Information of Peptides.
Zixin Chen, Chengming Ji, Wenwen Xu, Jianfeng Gao, Ji Huang, Huanliang Xu, Guoliang Qian, and Junxian Huang.
Corresponding author.
In Submission, 2024

Nondestructive In-Ovo Sexing Identification of Hy-Line Sonia Eggs by EggFormer using Hyperspectral Imaging.

Chengming Ji, Ke Song, Zixin Chen, Shanyong Wang, Huanliang Xu, Kang Tu, Leiqing Pan, and **Junxian Huang**.

Corresponding author.

In Submission, 2024

RiceTFtarget: A Rice Transcription Factor-Target Prediction Server Based on Coexpression and Machine Learning.

Baoyi Zhang, Xueai Zhu, Zixin Chen, Hongsheng Zhang, **Junxian Huang**, and Ji Huang.

Co-corresponding author.

Plant Physiology, Volume 193, Issue 1, Pages 190-194, September 2023

Performance and Power Characterization of Cellular Networks and Mobile Application Optimizations.

Junxian Huang.

Ph.D. thesis, 2013

An In-depth Study of LTE: Effect of Network Protocol and Application Behavior on Performance.

Junxian Huang, Feng Qian, Yihua Guo, Yuanyuan Zhou, Qiang Xu, Z. Morley Mao, Subhabrata Sen and Oliver Spatscheck.

ACM SIGCOMM, 2013

SocialWatch: Detection of Online Service Abuse via Large-Scale Social Graphs.

Junxian Huang, Yinglian Xie, Fang Yu, Qifa Ke, Martin Abadi, Eliot Gillum and Z. Morley Mao.

ACM ASIA Conference on Computer and Communications Security (ASIACCS), 2013

How to Reduce Smartphone Traffic Volume by 30%?

Feng Qian, **Junxian Huang**, Jeffrey Erman, Z. Morley Mao, Subhabrata Sen, and Oliver Spatscheck.

Passive and Active Measurement Conference (PAM), Best Paper Nominee, 2013

Screen-Off Traffic Characterization and Optimization in 3G/4G Networks.

Junxian Huang, Feng Qian, Z. Morley Mao, Subhabrata Sen, and Oliver Spatscheck.

ACM Internet Measurement Conference (IMC), 2012

Innocent by Association: Early Recognition of Legitimate Users.

Yinglian Xie, Fang Yu, Qifa Ke, Martin Abadi, Eliot Gillum, Krish Vitaldevaria, Jason Walter, **Junxian Huang**, and Z. Morley Mao.

ACM Conference on Computer and Communications Security (CCS), 2012

A Close Examination of Performance and Power Characteristics of 4G LTE Networks.

Junxian Huang, Feng Qian, Alexandre Gerber, Z. Morley Mao, Subhabrata Sen, and Oliver Spatscheck.

ACM International Conference on Mobile Systems, Applications, and Services (MobiSys), Best Paper Nominee, 2012

Web Caching on Smartphones: Ideal vs. Reality.

Feng Qian, Kee Shen Quah, **Junxian Huang**, Jeffrey Erman, Alexandre Gerber, Z. Morley Mao, Subhabrata Sen, and Oliver Spatscheck.

ACM International Conference on Mobile Systems, Applications, and Services (MobiSys), 2012

Periodic Transfers in Mobile Applications: Network-wide Origin, Impact, and Optimization.

Feng Qian, Zhaoguang Wang, Yudong Gao, **Junxian Huang**, Alexandre Gerber, Z. Morley Mao, Subhabrata Sen, and Oliver Spatscheck.

International Conference on World Wide Web (WWW), 2012

Cellular Data Network Infrastructure Characterization and Implication on Mobile Content Placement.
Qiang Xu, Junxian Huang, Zhaoguang Wang, Feng Qian, Alexandre Gerber, and Z. Morley Mao.
ACM International Conference on Measurement and Modeling of Computer Systems (SIGMETRICS), 2011

Anatomizing Application Performance Differences on Smartphones.
Junxian Huang, Qiang Xu, Birjodh Tiwana, Z. Morley Mao, Ming Zhang, and Paramvir Bahl.
ACM International Conference on Mobile Systems, Applications, and Services (MobiSys), Best Paper Nominee, 2010

Deception Detection Via Blob Motion Pattern Analysis.
Fan Xia, Hong Wang, and Junxian Huang.
Affective Computing and Intelligent Interaction (ACII), 2007

Technical Reports

SocialWatch: Detection of Online Service Abuse via Large-Scale Social Graphs.
Junxian Huang, Yinglian Xie, Fang Yu, Qifa Ke, Martin Abadi, Eliot Gillum, and Z. Morley Mao.
MSR-TR-2013-24, 2013

Uncovering Cellular Network Characteristics: Performance, Infrastructure, and Policies.
Junxian Huang, Feng Qian, Qiang Xu, Zhiyun Qian, Z. Morley Mao, and Ammar Rayes.
CSE-TR-578-13, 2013

Anatomizing Application Performance Differences on Smartphones.
Junxian Huang, Qiang Xu, Z. Morley Mao, Ming Zhang, and Paramvir Bahl.
CSE-TR-556-09, 2009

Conference Talks

Screen-Off Traffic Characterization and Optimization in 3G/4G Networks.
ACM Internet Measurement Conference (IMC) 2012.
Boston, United States.

A Close Examination of Performance and Power Characteristics of 4G LTE Networks.
ACM International Conference on Mobile Systems, Applications, and Services (MobiSys) 2012.
Lake District, United Kingdom.

Anatomizing Application Performance Differences on Smartphones.
ACM International Conference on Mobile Systems, Applications, and Services (MobiSys) 2010.
San Francisco, United States.

Patents

Patents Granted

P7. Method for Detecting Feather Area Parameters of Poultry.
Junxian Huang, Zixin Chen, Jianfeng Gao, Wencai Wu, Wei Dai, Huanliang Xu, Chengming Ji, Meixuan Shan, Wenwen Xu, Zemin Liu, and Jianhua Deng.
Chinese Patent **CN116309791B**, 2023/10/27

P6. Method for Detecting Parameters of Chicken Head Organs.

Junxian Huang, Wenwen Xu, Zixin Chen, Jianfeng Gao, Huanliang Xu, Chengming Ji, Zemin Liu, Wei Dai, and Wencai Wu.

Chinese Patent **CN116596937B**, 2023/09/22

P5. Method, Device and Equipment for Identifying Characteristics of Pores of Poultry.

Ming Zhang, Junxian Huang, Jingting Su, Zixin Chen, Xiaojun Ju, Jianfeng Gao, Yunjie Tu, Yanju Shan, Gaige Ji, and Yifan Liu.

Chinese Patent **CN116228734B**, 2023/09/22

P4. Biological Information Acquisition Method Based on GNN Neural Network.

Junxian Huang, Tao Yin, Jianfeng Gao, Huanliang Xu, Chengming Ji, Zixin Chen, Wenwen Xu, and Zemin Liu.

Chinese Patent **CN116312744B**, 2023/09/22

P3. Network-based Payment Method and Network Payment Server.

Junxian Huang, and Jianfeng Gao.

Chinese Patent **CN107748985B**, 2021/05/28

P2. Facilitation of Mobile Device Resource Optimization.

Subhabrata Sen, Oliver Spatscheck, Junxian Huang, Z. Morley Mao, and Feng Qian.

US Patent **US10172041B2**, 2019/01/01

P1. Using Social Graphs to Combat Malicious Attacks.

Yinglian Xie, Fang Yu, Martin Abadi, Eliot C. Gillum, Junxian Huang, Z. Morley Mao, Jason D. Walter, and Krishna Vitaldevara.

US Patent **US8434150B2**, 2013/04/30

Patent Applications

A5. A Method for Nondestructive Identification of Chicken Egg Gender Using Hyperspectral Imaging.

Junxian Huang, Chengming Ji, Jianfeng Gao, Zixin Chen, et al.

Chinese Patent Application, in Submission, 2024

A4. A Method for Calculating Egg Shape Index and Identifying Breed of Chicken Eggs.

Ming Zhang, Junxian Huang, Jingting Shu, Liuchao Zhu, Xiaojun Ju, et al.

Chinese Patent Application, in Submission, 2024

A3. An Intelligent Health Monitoring System and Method for Poultry Farming.

Junxian Huang, Lianzeng Wang, Huaxin Qiao, Shouchang Zhou, Zixin Chen, et al.

Chinese Patent Application, in Submission, 2024

A2. A Method of Diagnosing Respiratory Diseases in Poultry Based on Vocalizations.

Lianzeng Wang, Junxian Huang, Shouchang Zhou, Huaxin Qiao, et al.

Chinese Patent Application, in Submission, 2024

A1. Method and Device for Poultry Chicken Breed Identification.

Jingting Su, Ming Zhang, Junxian Huang, Yanju Shan, Zhiwu Chen, et al.

Chinese Patent Application **CN117593764A**, 2024/02/23

Honors and Awards

2021 - High-level Talent Program by Nanjing Agricultural University

2016 - Nanjing Leading Innovator in Science and Technology

- 2015 - Suzhou Industrial Park Leading Innovator in Science and Technology
- 2015 - Winner (3rd Place) in the 3rd China National Innovation and Entrepreneurship Competition, Internet and Mobile Internet Industry
- 2015 - Winner of Jiangsu Province Innovation and Entrepreneurship Competition
- 2015 - Winner of Silicon Valley Innovation and Entrepreneurship Competition
- 2011 - Runner-up of the Fall 2011 University of Michigan Mobile Apps Challenge
- 2011 - Winners of the **Federal Communications Commission (FCC) Open Internet App Challenge** in Challenge.gov in the categories of "Open Internet App Award" and "People's Choice App".
Project: "MobiPerf: Mobile Network Measurement System"
- 2010 - Winner of Yahoo Hack U Competition in University of Michigan
- 2010 - Runner-up of the Spring 2010 University of Michigan Mobile Apps Challenge
- 2010 - MobiSys 2010 Excellent Student Grant
- 2008 - Excellent Graduation Award
- 2006 - First-Class award in the Collegial Physics Competition in Beijing, China
- 2005 - Admitted into the Special Pivot Yao Class supervised by Turing Award winner, Prof. Andrew Chi-Chih Yao, 24 students selected campus-wise
- 2005 - First-Class Scholarship for Undergraduate in Tsinghua University (5 out of 160 students in the Department of Computer Science)
- 2004 - First-Class Scholarship for Freshman in Tsinghua University
- 2004 - Ranked 4th in ~400,000 examinees in National College Entrance Exam in Hubei Province, China
- 2003 - First-Class Prize in the National Physics Olympiad in Hubei, China

Teaching

- Computer Vision, Nanjing Agricultural University, Spring, 2024
- Computer Vision, Nanjing Agricultural University, Fall, 2023
- Principles in Information Technology, Nanjing Agricultural University, Fall, 2023
- Computer Graphics and Imaging, Nanjing Agricultural University, Fall, 2023
- Advanced Computer Graphics and Imaging, Nanjing Agricultural University, Spring, 2023
- Computer Vision, Nanjing Agricultural University, Fall, 2022
- Computer Graphics and Imaging, Nanjing Agricultural University, Fall, 2022
- Advanced Computer Graphics and Imaging, Nanjing Agricultural University, Spring, 2022
- Computer Graphics and Imaging, Nanjing Agricultural University, Fall, 2021
- C Programming Language, Nanjing Agricultural University, Spring, 2021
- Advanced Computer Graphics and Imaging, Nanjing Agricultural University, Spring, 2021
- Computer Networks (EECS 489), Teaching Assistant, University of Michigan, Ann Arbor, Fall, 2011

Professional Service

I have served as a guest editor in the special issue **Bioinformatics in Crop Genetics and Molecular Breeding of Plants** (ISSN 2223-7747). This special issue belongs to the section "Plant Genetics, Genomics and Biotechnology".

I have served as a reviewer for INFOCOM 2011, MC2R 2012, Transactions on Mobile Computing 2012.

Miscellaneous

Proficient in C++/C/Objective-C/Java/Python/Android.

Developed iOS and Android apps in full stack that have cumulatively over 5 million users.

Fluent in English, native in Chinese.

Proficient with VIM and L^AT_EX.

References

Prof. Z. Morley Mao

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Dr. Subhabrata Sen

AT&T Labs Research

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