Qinwen (Wendy) Huang

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Education

PhD Candidate in Computer Science, *Duke University, Durham, NC* Aug 2018 – present

- Focus on designing machine learning-based algorithms for noisy electron microscopy image analysis to resolve protein structure at high resolution

Bachelor of Science in Applied Math and Biomedical Engineering, *Johns Hopkins University, Baltimore, MD* Aug 2014 – May 2018

- With a focus in Probability and Statistics and Computational Biology; Computational Medicine minor
- Graduation with high honors and departmental honors; Major GPA 3.87

Professional Experience

Machine Learning Engineer Intern, *Pinterest, Palo Alto, CA* May 2022 – Aug 2022

- Designed machine learning algorithms that improve user identification by 5% and facilitate downstream advertisements targeting

Consultant, *Archer, Durham, NC* Sept 2021 – Dec 2021

- Performed in-depth research on multi-family housing market; analyzed 50 clients' interview notes and identified key factors that contributes to clients' property acquisition decisions
- Designed and implemented a client-property matching algorithm that outputs a list of potential properties that best aligns with clients' interests within seconds

Data Analyst Intern, *Talbots, Boston, Massachusetts* Jan 2018 – May 2018

- Analyzed customer data from past five years and built multiple predictive models for customer churn problem using machine learning and deep learning algorithms with over 90% accuracy. Models are adopted by the marketing team and in production
- Presented weekly to marketing and data team on progress updates and incorporated feedback to models

Operational Consultant, *Johns Hopkins Medical Institution, Baltimore, Maryland* May 2016 – May 2018

- Designed an integer programming-based optimization algorithm that created and organized work schedule for more than 20 people from Johns Hopkins Hospital OBGYN department in less than 30 seconds
- Extracted data from SQL and built a predictive model that output each patient's no-show probability based on basic information collected during appointment reservation with an accuracy of more than 85%. Implemented a new scheduling algorithm which maximizes daily revenue based on the no-show probabilities calculated by the predictive model using Python

Research Experience

Bartesaghi Lab at Duke University, Durham, NC Jan. 2020 –

- Constructed a weakly supervised-learning-based methods on cryo-EM dataset to achieve automatic image denoising and object segmentation/detection simultaneously under extremely low signal-to-noise ratio environment and significantly outperforms state of the art methods. Paper accepted to WACV
- Developed a contrastive learning-based particle detection method for 3D cryo-electron tomography data that enables fast and accurate particle identification within minutes and outperforms state-of-the-art methods by a significant margin. Paper accepted to ECCV. Full manuscript in submission to Nature Methods
- Automated data screening process for cryo-EM data collection using deep-learning based algorithms. Paper accepted to eLife
- Reviewer for Winter Conference in Computer Vision (WACV), Medical Image Computing and Computer Assisted Intervention Society (MICCAI)

Extracurricular Experience

Duke-UNC-TMC National Case Competition Steering Committee, *Duke University* Nov 2022 –

- Spearheaded national case competition by collaborating with Texas Medical Center and the University of North Carolina Chapel Hill and recruited more than 120 participants across 30+ institutions
- Established long term sponsorships for the competition with 7 educational organizations and strategy consulting firms

IT Director for Chinese Consultants Consortium Oct 2022 –

- Front-end and back-end web development for the organization with 700+ active members
- Hosted roundtable discussion with 50+ participants on topics career development and exit opportunities for management consulting

Faculty Search Committee Head, *Duke University* Nov 2021 –

- Organized graduate student meeting with 20+ visitors and helped promote publicity of visitors' talks
- Collected and summarized feedback from faculty and students

Teaching Assistant, *Duke University* Aug 2020 – Dec 2020

- Received best teaching assistant award
- Gave lectures on deep learning applications in computer vision to 20 students; held office hours and designed weekly homework

Co-Owner of Autosport Racing Social Media Account May 2015 –

- Manages autosport racing with a focus on Formula 1 social media account on weibo with more than 700K followers
- Coorporates with ex-FOX Asia commentator to promote the new F1post-race show and achieves an average per-video viewership of 50K

Design Team Member at Center for Bioengineering Innovation and Design, *Johns Hopkins University* March 2016 – May 2018

- Performed a deep market analysis on medication verification and adherence problems by conducting more than 300 of interviews with doctors and patients
- using swift3 and node.js which allows patients to connect with other similar patients and socially motivate each other in order to improve medication adherence; record verification data for physicians' use
- Finalist in JHU Business Plan Competition; paper accepted to Journal of mHealth

Skills

Microsoft Offices, PyTorch, Tensorflow, Python, R, Matlab, Java, SQL database, Swift, UNIX, Machine Learning