ZECHENG ZHANG

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EDUCATION

Master of Computer Science, New York University, GPA: 4.0/4.0 **Expected May 2023**
Relevant Coursework: Algorithms and Data Structure, Database Systems, Computer Networking, Machine Learning, Algorithmic Machine Learning at Large Scale, Cloud Computing, Big Data, Computer Vision, Object Oriented Programming

Bachelor of Mathematics, The Chinese University of Hong Kong GPA: 3.84/4.0 **Sep 2017 - May 2021**
Honors: Dr Wong Yau Chuen Prize in Mathematics; Dean's List
Relevant Coursework: Numerical Analysis, Optimization, Probability Theory, Stochastic Processes, Algebra, Real Analysis, Complex Analysis, Ordinary Differential Equations, Partial Differential Equations

TECHNICAL SKILLS

Programming languages	Python, Java, C++, JavaScript
Database	MySQL, PostgreSQL, SQLite, MongoDB, RDS, DynamoDB
Frameworks and Libraries:	React, Django, Express, PyTorch, TensorFlow, Scikit-learn
Development tools:	Git, Linux, Elasticsearch, Docker, Kubernetes, AWS (EC2, S3, API Gateway, Lambda)

EXPERIENCE

Software Engineering Intern **May 2021- Aug 2021**
HireBeat *New York, NY*

- Initiated the development and optimization of the company's AI-based resume scanning system using advanced NLP techniques and deep learning models.
- Utilized PyTorch along with NLP libraries such as NLTK, spaCy, and Hugging Face Transformers to process and extract information from over 10,000 resumes.
- Leveraged AWS SageMaker, EC2, and Lambda to train, deploy and serve the models, resulting in a 20% decrease in training time and a 90% reduction in training cost.
- Coordinated with cross-functional teams to integrate the improved NLP component into the overall resume scanning system, leading to a 35% increase in user engagement and a 15% increase in client acquisition.

COURSE PROJECTS

Mini Stackoverflow (Python, Django, Backend, AWS) **Jan 2022-Feb 2022**

- Developed a question-answer platform with over 20 features such as notification, keyword search, recent activities, user tiers and topic hierarchies.
- Designed RESTful APIs in Django Rest Framework to handle user authentication and CRUD functionality.
- Applied Django ORM to design and implement a relational database, utilizing MySQL to store user and course information.
- Implemented user authentication and session management using JSON Web Tokens (JWT) and cookies.

UNDERGRADUATE RESEARCH EXPERIENCE

Image Denoising Research (Python, PyTorch, Pandas, NumPy) **July 2020-Aug 2020**
Under supervision of Prof. Tieyong Zeng

- Originated and contributed research ideas by reproducing top conference papers from CVPR and ICML in PyTorch.
- Researched and experimented an equivariant neural network architecture for grey-scaled image denoising using partial differential operator and wavelet transform, and improved PSNR to 32.94 compared to 32.37 through benchmark algorithm (BM3D) under noise level $\sigma = 15$ on Set12.

STUDENT SEMINAR

Algebraic Topology Student Seminar Presentation CUHK, Sep 2019
Topic: The applications of winding numbers *60 min*

Probability Theory Student Seminar Presentation ETH Zurich, Mar 2019
Topic: An Combinatoric proof for Wigner's Semicircle Law *90 min*