ZIYUAN CHEN

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EDUCATION

University of Illinois at Urbana-Champaign — Urbana, United States
Bachelor of Computer Science | GPA: 3.92/4.00 — Aug 2020 – Present

Zhejiang University — Haining, China
Bachelor of Computer Engineering | GPA: 3.97/4.00 — Aug 2020 – Present

WORK EXPERIENCE

Vehicle-Road Collaboration R&D Department, Baidu Inc. — Shenzhen, China
Research Intern — Aug 2023 – Sep 2023

- Incorporated a large model in the cloud for detecting pavement abnormalities in photos
- Featured a high-recall small model on mobile devices that filters obviously negative samples
- Delivered a presentation on LLM prompting techniques and applications for intelligent traffic
- Received the Outstanding Intern Award as a recognition of contribution

RESEARCH PROJECTS

DISSCO: Digital Instrument for Sound Synthesis and Composition — Champaign, United States
Developer — May 2023 – Jul 2023

- Studied full-stack components and facilitated spatialization and reverberation by partial in C++ backend
- Revised frontend to pass extra information through XML and updated middleware to concert the workflow

AQOURSNet: Unsupervised Shapelets in Time Series Classification — Hangzhou, China
Researcher — Jun 2022 – Aug 2022

- Implemented Time2Graph and Time2Graph+ that model time series as "shapelet" transitions
- Incorporated the Graph Attention Network with KMeans clustering to encourage shapelet diversity
- Accelerated shapelet extraction by nearly 100% with accuracy comparable to 10 benchmark SOTAs

Self-Supervised Semantic Segmentation and Defect Detection for 3D Oral Mesh — Haining, China
Contestant — Jul 2021 – Mar 2022

- Self-learned the *Dive into Deep Learning* online course and the Pytorch framework
- Implemented Bootstrap Your Own Latent and Point-Masked Autoencoder algorithms
- Proposed to fine-tune model parameters with a small amount of manually labeled data

COURSE PROJECTS

TrapoTempo: Rhythm Game on FPGA System-on-Chip (ECE385) — Urbana, United States
Developer — Apr 2023 – May 2023

- Designed a GUI at pixel level with smooth "flowing notes" animation and real-time statistics
- Featured the SGTL5000 sound codec, I2S controller, and SDRAM-based audio playback
- Entered the final showcase and received over 10k views on the demo video

ZinixOS: A Unix-Like Operating System (ECE391) — Urbana, United States
Developer — Sep 2022 – Dec 2022

- Developed various components (RTC, terminal, syscall, etc.) in a kernel from bare-bones
- Added extra functionality like dynamic malloc and signal handling to build a fully functional OS
- Cooperated with three other teammates and ranked Top 5 among over 50 teams in the final showcase

COMPETITIONS

MCM 2022: Price Prediction and Investment Model for Gold and Bitcoin   Haining, China
Contestant   Feb 2022

- Utilized Grey Model for short-term analysis and Multi-Layer Perceptron for long-term analysis
- Modeled investors with "vision" and "risk tolerance" parameters in the Capital Asset Pricing Model
- Teamed up with two other developers for four days and achieved a 3200% "return" over 5 years

LEADERSHIP EXPERIENCE

Teaching Assistant of ECE120 "Introduction to Computing"   Haining, China
Teaching Assistant   Feb 2022 – Jun 2022

- Guided the students to grasp complex concepts and provided *reasonable* support in coding problems
- Unveiled the reasoning behind tools (e.g., designing an ISA) to lay a solid foundation for future courses

Writing Assistant of RHET102 "Principles of Research"   Haining, China
Writing Assistant   Feb 2022 – Jun 2022

- Assisted the students in appealing to the audience and crafting solid arguments in their writings
- Hosted group meetings during office hours to discuss common pitfalls and provide customized feedback

Summer Social Practice, Zhejiang University   Jingdong, China
Deputy Team Leader   Jun 2021

- Conducted a two-day volunteer teaching program in Jingdong Minzu Primary School, Yunnan
- Researched the local food industry and shared my thoughts through articles, videos, and songs
- Organized and hosted a two-hour online streaming session advertising local agricultural products

AWARDS & HONORS

- Baidu Inc., *Outstanding Intern Award*   Sep 2023
- Mathematical Contest in Modeling, *Finalist*   Feb 2022
- Chinese Mathematical Competition, *First Prize*   Dec 2021
- Zhejiang University, *Outstanding Summer Research*   Mar 2023
- Zhejiang University, *Outstanding Team in Summer Social Practice*   Jun 2021
- Zhejiang University, *Outstanding Individual in Summer Social Practice*   Jun 2021
- Zhejiang University, *Second-Prize Scholarship*   Oct 2022, Oct 2023
- ZJU-UIUC Institute, *Third-Prize Scholarship*   Nov 2022, Nov 2023
- ZJU-UIUC Institute, *Dean's List*   Nov 2022, Nov 2023

SKILLS

Programming	Python, C, C++, CUDA, Shell, SystemVerilog, x86 Assembly
Developer Tools	Pytorch, Linux, CMake, Git, QEMU, Quartus, LaTeX, Jekyll
Language	TOEFL (112/120), GRE (333+4.0/340+6.0), CET6 (668/710), CET4 (630/710)