GUANG HUA

+12064993937 | wymnzdblwlm@gmail.com | Seattle, WA, USA | linkedin.com/in/guang-hua-696372268/

PROFESSIONAL SUMMARY

Data-driven machine learning enthusiast with a solid foundation in data analysis and machine learning, culminating from diverse internship experiences. Passion in Mathematics and endorse its beauty in solving problems in life. Proficient in MATLAB and Python with scikit-learn and PyTorch. Optimized SQL queries, after getting in hand with new coding language for 2 weeks and eventually enhancing data processing speeds by up to 30%, during a data analyst internship, showcasing a knack for adaptability and problem-solving.

EDUCATION

University of Washington **September 2023 - March 2025**
Master's, Applied Mathematics *GPA: 3.81*

- Machine Learning/Deep Learning, Neural Network, Dynamical System, Python, PyTorch/scikit-learn/Pandas/Matplotlib, MATLAB, Linear/Logistic Regression, C++/CUDA/NVDPC

University of Washington **September 2019 - June 2023**
Bachelor's, Mathematics *GPA: 3.59*

- Optimization, Algorithms, Analysis, Modeling, Proof/Logic, Mathematics

PROFESSIONAL EXPERIENCE

DeFiner Labs **Remote**
Data Analyst Intern *January 2024 - March 2024*

- Extracted data from the crypto exchange database using SQL and utilized the Dune platform for visualizing data in plot/graph format. Analyzed user and exchange activity on a daily/weekly/monthly basis to identify the top 15 most active addresses and monitor cash flow monthly. Use these data to give insights of current trends and generate further improvement ideas.
- Collaborated within a team to optimize SQL code, improve performance, remove redundant code and errors, and upgrade code version for compatibility with the latest SQL server version, achieving a 30% enhancement in query and analysis speed.
- Improved algorithm for filtering transactions between main accounts, resolved a bug related to handling income/outcome transactions, optimized logic using inclusion/exclusion methods, and decreased SQL query time by 10-20% based on the source dataset.

University of Washington **Seattle, WA, USA**
Lab Assistant *September 2021 - Present*

- Supervised operations in photography lab, managed equipment inventory, and executed minor equipment repairs. Acquired expertise in camera mechanics, focusing on aperture blade and shutter system functionality. Enhanced Electrical Engineering skills by soldering and examining PCB/electrical components.
- Mentored students in resolving photography and equipment-related challenges, elevating their self-assurance in creating printed photos and refining enlarging abilities. Significantly enhanced personal confidence and communication skills.
- Optimized chemical ratios for high-quality prints by conducting experiments and developing a personalized theory for adaptive chemical usage. Improved laboratory management and operational skills.

Ningbo Commerce Bank **Ningbo, Zhejiang, China**
Summer Data Intern *June 2023 - August 2023*

- Enhanced machine learning abilities with Pandas and PyTorch, while acquiring familiarity with big data and databases. Participated in weekly system maintenance and tracked property modifications on systems. Introduced to cloud-based internet protection measures.
- Engaged in weekly collaborative group meetings to review project advancements and fostered teamwork in a dynamic work setting.

Self-Employed **Seattle, WA, USA**
Web Developer & Designer *June 2024 - Present*

- Contain personal info, current projects, previous experiences, future plans, and personal hobbies and interests.
- Improved user engagement by creating interactive JavaScript modules to enhance interactivity on websites.
- Enhanced website aesthetics and user experience by optimizing layout and styling with CSS.
- Gain experience in Web UI/UX design.
- https://www.guang-analog.blog/

University of Washington **Seattle, WA, USA**
Co-administator *January 2024 - Present*

- Co-administrator for AnalogClubUW, a newly founded RSO with film photography enthusiasts.
- Main focus in technology assistance (website development, poster UI/UX design, operational document preparation) as well as communication (Q&As in meetings, after-hour assistance, meeting preparation)

PROJECTS & OUTSIDE EXPERIENCE

Generated Vortex Visualization **Seattle, WA, USA**
Core Member *November 2023 - December 2023*

- Extended 2D pseudo-spectral code to solve the vorticity conservation equation with random initial conditions, observing large-scale vortices formation due to inverse energy cascade.
- Utilized Python code to compute dynamics using RK-TVD method and inverse FFT, achieving high accuracy with L2-norm error at 1e-15 level compared to the theoretical Taylor Green vortex equation.
- Achieved a perfect score of 100/100 for the group presentation, distinguishing from 8 competing groups in the class. Further improved data structure skills and experiences.
- https://1drv.ms/b/s!AsbZEs8TQw6dhP91sRyOMc2PUE5UaQ?e=Pvrtlv
- *Link to project*

AMD RDNA2 GPU Efficiency Model and Analysis **Seattle, WA, USA**
Team Leader *July 2022 - August 2022*

- Developed a mathematical model to predict the relationship between power consumption and performance of AMD RX6600XT using polynomial and linear fitting, achieving excellent matching with empirical data.
- Led a team in extending the efficiency model to cover the entire RDNA2 GPU family, considering CU size, minimum frequency, and voltage draw, enhancing the model's scope and applicability.
- Acquired team leadership and communication skills while overseeing the research project on AMD RDNA2 GPU Efficiency Model and Analysis.
- Achieved a grade of 96/100 for the project, demonstrating excellence in research and analysis.
- https://1drv.ms/b/s!AsbZEs8TQw6dhYAYGpcli01DLFCz7w?e=DCr0xP
- *Link to project*

FM Radio Broadcasting & Audio Processing **Seattle, WA, USA**
Leader *April 2024 - Present*

- Optimized audio stream for FM broadcasting using Thimeo Stereo Tool, enhancing audio quality for effective broadcasting.
- Applied audio processing techniques including pre-emphasis, limiting, and dynamic expansion, enhancing audio quality for broadcasting purposes.
- Built a personal FM broadcasting station, applying audio mixing theory for a practical broadcasting setup.

SKILLS

Skills: Excel/Numbers/Sheets, MATLAB, Python, Adobe Lightroom, Adobe Photoshop, Data Analysis, Data Science, Management, Pandas, Pytorch, SolidWorks, Machine Learning, Microsoft Office Suite, Neural Network, Audacity, Solidworks, analytic, Mathematics, Deep Learning, Neural Network, NumPy, Scipy, Team Collaboration, Programming, Data Visualization, Data Structures & Algorithms, Communication, Mentoring, Presentation, Data Analytics, C/C++, Outlook/GMail, Statistics
Languages: Chinese, Japanese, English