XINYI (CYNTHIA) FAN

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EDUCATION

Davidson College   *Davidson, NC*
Bachelor of Science in Mathematics(honors) and Computer Science   *Expected May 2022*
- GPA: 3.82/4.0; Major GPA:3.95/4.0

PROFESSIONAL/RESEARCH EXPERIENCE

Data Consultant – The Hurt Hub   *August 2021 – present*
Davidson College (Davidson, NC)
- Counsel and tutor students with data analytics and data visualization among a wide range of majors and projects using R and python
- Aid and cooperate with a local nonprofit Smithville to build a Shiny dashboard using R for their demographic data

Research Fellow – Summer Geometry Institute   *July 2021 – present*
Massachusetts Institute of Technology (remote)
- Research on areas within the field of geometry processing including hexahedral mesh decomposition, elastic shell simplification, and design optimization via shape morphing using MATLAB and C++
- Proposed key ideas for proof writing and contributed on building codes using gptoolbox
- Received research fellowship from the program

Resident Advisor -- Residence Life Office   *August 2019 – May 2021*
Davidson College (Davidson, NC)
- Mentored residents on campus life and personal well-being and promoted programs to build a close community
- Awarded the prize of Residence Advisor of the Month for outstanding work as an RA

Attendee – ACM Richard TAPIA Conference   *September 2020*
Remote
- Participated in academic panels in diverse areas of computing and connected with researchers from different backgrounds

Presenter -- Young Mathematicians Conference   *August 2020*
Ohio State University (remote)
- Presented the research results on "Optimal Addressing Schemes for Subfamilies of Block Graphs and related Graphs"

Research Fellow – REU: Research Challenges of Computational and Experimental Mathematics   *May 2020 – August 2020*
Moravian University (remote)
- Investigated two projects on optimal addressing schemes for different families of graphs and host-parasitoid population dynamic modeling for ten weeks, using MATLAB, Java, and SageMath
- Guided the team to collaborate on programming tasks and weekly progress presentation
- Prepared a paper for submission and presented research results on the topic of addressing graph in various occasions

Attendee – Nebraska Conference for Undergraduate Women in Mathematics   *January 2020*
Lincoln, Nebraska
- Attended academic talks and networked with various speakers from industry and academia

PUBLICATION

- Paul Zhang, Judy Chiang, **Xinyi Fan**, and Klara Mundilova. Hexahedral Singularity Decomposition.
    SIAM International Meshing Roundtable 2022 (Accepted with revisions)

EXTRACURRICULAR EXPERIENCE

President -- Women in Math   *August 2019 – present*
Davidson College (Davidson, NC)
- Organize, propose, and facilitate group meetings and workshops on topics including course selection advising, academic research, career development, and community support
- Contribute and distributed resources for research opportunities and gave an academic talk on past REU research results

President -- Chinese Culture Club   *February 2020 – May 2021*

Davidson College (Davidson, NC)

• Directed and carried out responsibilities associated with the role as the chief executive officer of the largest and only Chinese student organization on campus

• Collaborated with other culture organization on campus and communicated with student government and tax council

Member -- CatsStats   *August 2019 - May 2020*

Davidson College (Davidson, NC)

• Analyzed the shot location and accuracy of Women's Basketball while attending games to collect sports data

• Implemented Java tools to integrate and process data and performed statistical analysis on players' performance

Choreographer -- Davidson Dance Ensemble   *August 2018 - March 2020*

Davidson College (Davidson, NC)

• Choreographed a K-pop dance and co-choreographed a Chinese-pop dance

• Performed on multiple campus Dance Ensemble showcases and attracted 300+ audience

ADDITIONAL SKILLS

Languages: English, Chinese (fluent); Korean (intermediate)

Technical: Python, MATLAB (Proficient); C, C++, Java (Intermediate); R, SQL, Mathematica (Basic)

Research: Mathematical Modeling, Data Visualization, Data analytics

Application: Adobe Photoshop, Adobe Premiere, Final Cut Pro, Power BI, Rhino 3D, Tableau, Unity