HAOWEI(ALICE) CHEN

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University of South Florida, Tampa, FL

(407)906-3937

EDUCATION

Ph.D in Mathematics   *2019- Anticipated: 2025*
University of South Florida   GPA: 3.9/4.0
Supervisor: Dr. Joel A. Rosenfeld

M.S. in Computational and Applied Mathematics   *2013- 2015*
Missouri University of Science and Techonology   GPA: 3.9/4.0
Supervisor: Dr. John Singler

RESEARCH INTERESTS

Dynamic Mode Decomposition, Occupation Kernel Hilbert Space, Optimal Control, Machine Learning, Finite Element Analysis, Fluid Dynamics, Reservoir Simulation

EXPERIENCE

AI Trainer for Mathematics, Scale.AI, Remote   *June 2024- Current*
Trained AI models for applications in mathematics.

Data Analyst, ALC Insurance Inc., New York, NY   *October 2017- Auguest 2018*
Conducted data analysis and reporting for insurance claims and risk management.

Account Manager, iBenzer, New York, NY   *June 2017- October 2018*
Managed client accounts, handled sales, and coordinated logistics.

Career Development Coordinator, UniCareer, New York, NY   *January 2017- June 2017*
Organized career development programs and provided career counseling to students.

Research Assistant, COMSOL.Inc, Boston, MA   *October 2014*
Developed reservoir simulations using COMSOL Multiphysics, specifically Fluid Dynamics.

Research Assistant, Colorado School of Mines, Golden, CO   *June 2014*
Specialized training in the TOUGH-2 simulator for underground water systems. Applied TOUGH-2 to shale gas simulation.

Teaching Associate, University of South Florida, Tampa, FL   *2019-2024*
Assisting professors in college math teaching, receiving extraordinary feedback.

Adjunct Faculty, Pasco Hernando State College, Wesley Chapel, FL,   *January 2024 - May 2024*
Instructor record for College Algebra and successfully utilized AI for the experiment of enhanced higher education.

PUBLICATION

Fractional Order System Identification with Occupation Kernel Dynamic Mode Decomposition
SIAM Applied Dynamical Systems-Underreview, with Joel Rosenfeld

Fractional-Order Dynamics Control using Kolmogorov-Arnold Networks (KAN)
Journal of Computational Dynamics-Underreview, with Sushant Pokriyal, Joel Rosenfeld, Tansel Yucelen

Improved numerical simulation for shale gas reservoirs
Offshore Technology Conference Asia, pp. OTC–24913, 2014, with Guo, Chaohua and Wei, Mingzhen and He, Xiaoming and Bai, Baojun

Fractional Dynamic Analysis for Network Malware Propagation
The 5th International Conference on Science of Cyber Security, SciSec, July, 2023

Modeling and Stability Analysis of Viral Propagation in Wireless Mesh Networking
International Journal of Computer and Information Engineering, Vol. 17, No.3, pp 253-256 , 2023

Technical and Risk Assessment of Underground Gas Storage Construction and Operation in China and Caspian Region
SPE Petroleum Technology Conference, D013S009R004, 2019, with Fu, Jin and Wang, Xi and Chen, Chen and Zhang, Shunyuan and Liu, Bingshan

TALKS/PRESENTATION

SIAM-MDS24, Atlanta, GA *October 21-25, 2024*
Registration and travel support for this presentation was awarded by the Society for Industrial and Applied Mathematics."
Fractional-Order Dynamics Control using Kolmogorov-Arnold Networks (KAN)

SEAM 40, Gainesville, FL March 15-17, 2024
Simulation and System Identification for Fractional Order Flow Model in Porous Media

Mississippi State University, Starkville, MS October 2014
Improved Numerical Simulation for Shale Gas Reservoirs

Grad Math@USF, Tampa, FL 2021-Current

- "Covid-19: An Eigenvalue Point View"

- "Fractional Calculus Approach for Flow Model in Porous Media"

- "The Black-Scholes Model for Valuation of Stock Options"

SKILLS

Programming Languages
MATLAB, C++, C, Python, SAS, R

Software Enginerring
COMSOL Multiphysics, TOUGH-2,TOUGH-2-CGS

PROFESSIONAL SERVICES AND CERTIFICATIONS

Vice President , AMS Graduate Chapter *2022*
University of South Florida
Council of Graduate Students *2014*
Missouri University of Science and Technology

RYT 200 Yoga Alliance Teacher *2024-2034*
BODsphere

Career Essentials in Generative AI *July,2023*
Microsoft,Show Credential

Generative AI with Large Language Models *July,2023*
DeepLearning.AI,Show Credential

Commercial Banking Virtual Experience Program *July,2023*
JPMorgan Chase,Show Credential

SAS Certified Base Programmer for SAS 9 *September,2015*
SAS,Show Credential

R Programming *May,2014*
Johns Hopkins University,Show Creditiential

TEACHING EXPERIENCES

Courses taught in Missouri University of Science and Technology 2013-2015
Lecturer:
MATH 3304 - Elementary Differential Equations (LEC 3.0)
Instructor:
MATH 1215 - Calculus II (LAB 1.0)

Courses taught in University of South Florida 2019-Current
Teaching Associate
MAC 2282 - Engineering Calculus II
MAC 2283 - Engineering Calculus III
MAP 2302 - Differential Equations
MAC 2312 - Calculus II
MAC 2313 - Calculus III
COT 3100 - Intro to Discrete Structure
COP 4313 - Symbolic Computations in MATH
MAT 5932 - Applied Cryptography

REFERENCES

Dr. Joel A. Rosenfeld *Department of Mathematics & Statistics* University of South Florida
Associate Professor
Email: rosenfeldj@usf.edu

Dr. Tansel Yucelen *Department of Mechanical Engineering*   University of South Florida
Associate Professor
Email: yucelen@usf.edu

Dr. Dmitry Khavinson *Department of Mathematics & Statistics*   University of South Florida
Distinguished University Professor
Email: dkhavins@usf.edu