

KHANG VO HUYNH

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EDUCATION

Bachelor of Arts, St. Olaf College

Anticipated graduation: May 2023

Majors: Computer Science and Mathematics

Concentration: Statistics and Data Science

Cumulative GPA: 3.81 | Computer Science GPA: 3.91 | Mathematics GPA: 4.0

Coursework:

Computer Science: Artificial Intelligence, Algorithms/Data Structure, Principles of Computer Science, Software Design, Hardware Design, Ethical Issues in Software Design, Mobile Computing Application (Spring 2022), Senior Capstone (Spring 2022)

Mathematics: Mathematics Practicum, Advanced Linear Algebra, Probability Theory (Spring 2022), Differential Equations I, Real Analysis I, Abstract Algebra I, Multivariable Calculus, Elementary Linear Algebra

Statistics and Data Science: Introduction to Data Science (Spring 2022)

SKILLS

Programming languages: Python, C++/ C, Shell Scripting, assembly language, R, some MATLAB

Cloud-based technologies: Kubernetes, Docker, AWS, GKE

Machine learning, deep learning and some natural language processing

RESEARCH EXPERIENCE

Cloud-powered PDC Computations For a Runestone Interactive Textbook, St. Olaf College

June 2021 - present

Research Advisor: Professor Richard A. Brown

- Lead the team of students building the backend of the interactive Runestone textbook on parallel and distributed computing (PDC) for beginning undergraduate students in which a reader can enter, modify and run computer code.
- Create a way for PDC computations to take place within a Runestone book, which makes learning PDC convenient enough for beginners.
- Construct the backend using cloud computing, using Docker containers and the Kubernetes management system.
- Organize and execute tasks such as OpenMP, OpenACC, MPI, etc. on Google Kubernetes Engine.

Research on Multi Label Text Classification on Imbalanced Data

January 2022

Research Advisors: Professor David Walmsley and Professor Paul Roback

- Conducted research on multi label text classification problem especially on skewed large dataset
- Implemented BERT, random forest, one versus rest classification, etc. to benchmark the result

Generalized Klein-4 Groups Generate Peano Curves in \mathbb{R}^n , St. Olaf College

June 2021 - December 2021

Research Advisor: Professor Paul D. Humke

- Constructed an inductive definition and define Peano Curve in n-dimension based on the result obtained from the previous research project “Finding the Keys to Peano Curve”.
- Established a generalized version of the Klein-4 group that generates the Peano Curve in n-dimension.

The manuscript is currently in preparation for submission.

Finding the Keys to Peano Curve, St. Olaf College

December 2020 - May 2021

Research Advisor: Professor Paul D. Humke

- Presented Hilbert’s geometry and used it to show the Peano Curve is at most 4-to-1 but never 3-to-1.
- Established a complete arithmetization of Peano Curve based on Hilbert’s method.

The manuscript was submitted to a peer-reviewed mathematics journal and is currently under review.

PRESENTATIONS AND POSTERS

Mathematics on the Northern Plain, Minnesota, April 2021, **Khang Vo Huynh**, “Finding the Keys to the Peano Curve” (Presentation)

TECHNOLOGY-RELATED JOBS/ INTERNSHIPS

Cluster Manager, St. Olaf College

September 2021 - February 2022

- Work on developing cloud-native infrastructure for applications including Jupyter notebook, TensorFlow, etc. Construct and maintain a local Kubernetes cluster using three high performance machines.
- Mentor and direct peer on using Kubernetes and Docker to containerize applications.

Website Development Intern, KIS Vietnam Creative, Ho Chi Minh City, Vietnam

March - July 2019

- Utilized HTML to develop a website, in collaboration with a group of professional programmers.
- Collaborated with three software developers on the debugging team to generate testing scenarios and report to the development team.

TEACHING EXPERIENCE

Teaching Assistant, Hardware Design (CS241), St. Olaf College

September 2021 - December 2021

- Provided feedback and grades for students’ homework assignments.
- Hold two help sessions weekly to support students and answer questions related to the Hardware Design Class.

AWARDS

Pi Mu Epsilon, Mathematics Honor Society

Spring 2020-2021

Dean’s List, St. Olaf College

2020 - 2021

EXTRACURRICULAR ACTIVITIES

Coding Sub-Team Member, St. Olaf – Carleton Engineering Team

October 2019 - present

- Collaborate with a group of Carleton College and St. Olaf College students build a drone to compete in a national and local robotics competition.
- Develop an algorithm for the movement of the drone including GPS, computer vision, sensor, etc.

CERTIFICATION

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| Responsible Conduct of Research (RCR) Training (with Peer Review and Conflict of Interest modules) | June 2nd, 2021 |
| Certificate Of Completion - AI Accountability Essential Training (LinkedIn Learning) | June 6th, 2021 |
| Certificate Of Completion - Artificial Intelligence Foundations Machine Learning (LinkedIn Learning) | June 16th, 2021 |
| Certificate Of Completion - Essential Math for Machine Learning: Python Edition (LinkedIn Learning) | June 18th, 2021 |
| Certificate of Completion - Diversity, Inclusion, and Belonging (LinkedIn Learning) | September 10th, 2021 |
| Certificate of Completion - Unconscious Bias (LinkedIn Learning) | September 10th, 2021 |
| Machine Learning (Coursera) | November 17th, 2021 |