

Mark Mavis

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EDUCATION

BACHELORS OF SCIENCE IN COMPUTER SCIENCE & SOFTWARE ENGINEERING

UNIVERSITY OF WASHINGTON
Expected Grad. Jun '22 | Bothell, WA
Major GPA: 3.70 / 4.0

ASSOCIATE IN SCIENCE

CASCADIA COLLEGE
Jan '18 - Jun '19 | Bothell, WA
Major GPA: 3.71 / 4.0

HONORS & AWARDS

DEANS LIST | UW

Spring '21, '20 | Autumn '21, '20

HONOR SOCIETY | UW

Tau Sigma Member since March '20

PRESIDENTS HONORS | CASCADIA

Winter '19

FACULTY HONORS | CASCADIA

Spring '17

SKILLS & EXPERIENCE

PROGRAMMING LANGUAGES

High Lvl. Languages

C++ • C • C# • Python • Java

Low Lvl. Languages

Assembly: ARM & Thumb2

ENGINEERING SOFTWARE:

Visual Studio • VS Code • Git • Matlab

Google Collaboratory • Unity • Logism

Keil Microvision • Project Manager

Figma • Adobe Suite • Autodesk CAD

WEB DEVELOPMENT

CSS • HTML • JavaScript

PROJECT MANAGEMENT

Scrum • Agile • Waterfall

COURSEWORK

UNDERGRADUATE

Machine Intelligence

Data Mining & Pattern Recognition

Data Structures and Algorithms I & II

Hardware & Microcontrollers

Operating Systems

Software Project Management

Software & Usability Engineering

Calculus 1, 2, 3 & Physics 1, 2

Matrix Algebra & Discrete Mathematics

Game Development

UNIVERSITY RESEARCH

DEEP LEARNING AND MACHINE VISION IN AGRICULTURE |

UNDERGRADUATE RESEARCHER

Sep 2021 – Dec 2021 | Bothell, WA

Under **Dr. Dong Si**, researched the effects of image color balance on Machine Vision and ML model accuracy.

- **Machine Learning:** Engineered model using Tensorflows' Keras deep learning API to identify object classes at 97% success rate.
- **Computer Vision:** Implemented Python's Computer Vision library to generate delimited pixel files to modularize proceeding tasks.
- **Data Processing:** Simulated various lighting conditions through data set pixel manipulation using Adobe software.
- **Training Bias Reduction:** Configured the randomization of delimited data using SciKit library reducing training bias & improving accuracy by over 30%.
- **Testing Configuration:** Developed flexible testing algorithm using Google Colab to accelerate iterations.
- **Refined Model Accuracy:** Successfully proved initial hypothesis and identified an 11% increase in model accuracy using Matplotlib library.

M.L. MODELING IN MEDICAL ULTRASOUND IMAGING |

UNDERGRADUATE RESEARCHER

Sep 2021 – Jan 2022 | Bothell, WA

Under **Prof Erika Parsons, ph.D.**, Analyzed CT scans of traumatic brain injury patients to predict internal head trauma on Ultrasound.

- **Data Analysis:** Implemented statistical analysis on 3 dimensional tissue density data for both CT and ultrasound scans to identify patterns.
- **Dimensionality Reduction:** Engineered a reduced approximation of the data using Principle Component Analysis and Singular Value Decomposition.
- **Formulated Predictions** Created proprietary blood scan predictions script using principle components and Matlab.

CODING PROJECTS

GITHUB | REPOSITORIES

Movie Inventory

Dijkstra Algo.

Sorting Algos

CPU Scheduling

Shell Implementation

Hello World Game

WORK EXPERIENCE

LEAD SALES AND OPERATIONS MANAGER | MAVIS VACATION RENTALS

Jan 2015 – current | Woodinville, WA

Established

- **Success Generation:** Delivered over half a million in gross income in 5 years.
- **Growth Management:** Delivered 80% Growth in bookings, produced 59% increase in occupancy rate, and boosted revenue by 75% since inception.
- **Client Relations:** Consulted on all client hospitality, achieving top 5 market rank with 85+ 5-star ratings, a 94% 5-rating.
- **Market Analysis:** Implemented custom local market pricing strategy, producing a 93% occupancy rate, outperforming competition.
- **Operations Efficiency:** Implemented remote management strategy to decrease utility expenses by over 25%, maximizing available resources.