Finding Your Academic Niche

WiCS Orientation

Why Find a Niche

01

Courses

Helps you plan and choose courses strategically

02

Jobs

Makes you stand out when applying to specific jobs

03

Research

Opens doors to research and networking opportunities

04

Grad School

Shows focused expertise and strengthens applications

Niches in CS

Discovering areas to explore in your degree and beyond

Intelligent Computing

AI & ML

- NLP
- computer vision
- generative models

CS 486 Artificial Intelligence

Robotics

- autonomous vehicles,
- human-robot interaction

CS 484 Computer Vision

Data Science

- statistics
- large scale analysis

STAT 330 Linear Models

Core Systems & Infrastructure

Operating Systems

- building robust secure systems

CS 350 Operating Systems

Databases

- cloud
- scalability
- reliability

CS 454 Distributed Systems

Networking

- infrastructure
- protocols

CS 436 Networks

Emerging Fields

HCI

- UX
- accessibility
- AR/VR

CS 449 Human-Computer Interaction

Bioinformatics

- computational biology
- healthcare tech

CS 482 Computational Bio

Quantum Computing

- next-gen algorithms

CS 456 Quantum Processing

Interdisciplinary Specialties

Quant

- algorithmic trading
- portfolio optimization
- financial modelling

STAT 443 Forecasting

Social Computing

- modelling human behaviour
- policy

CS 492
Social Implications of Computing

Creative Tech

- Graphics
- Gaming
- VR

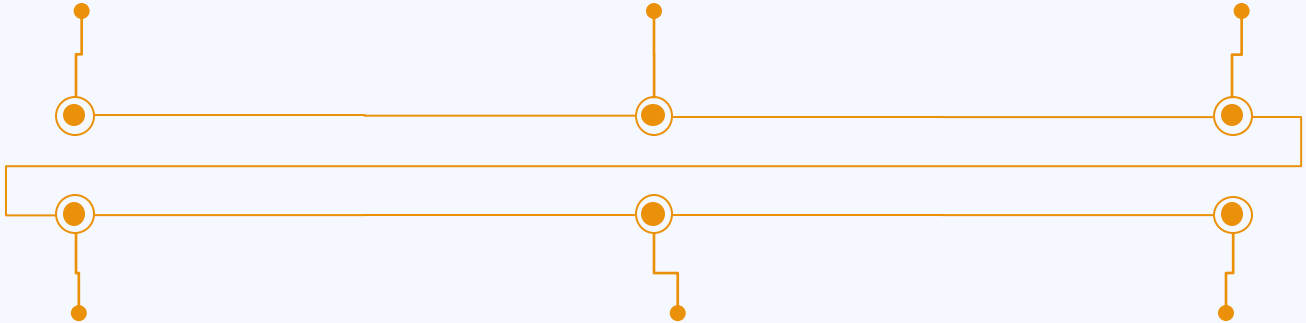
STAT 488 Computer Graphics

Finding My Fit: Quant

interest in **math**, **finance, CS**

exploring both **CS** + **finance** through courses

applying **data**, **coding**, and **finance** concepts



learned **systems**, **coding** at **scale**

exposure to **markets**, **risk**, **analytics**

algorithms, risk models, portfolio **optimization**

Finding My Fit: AI

High School

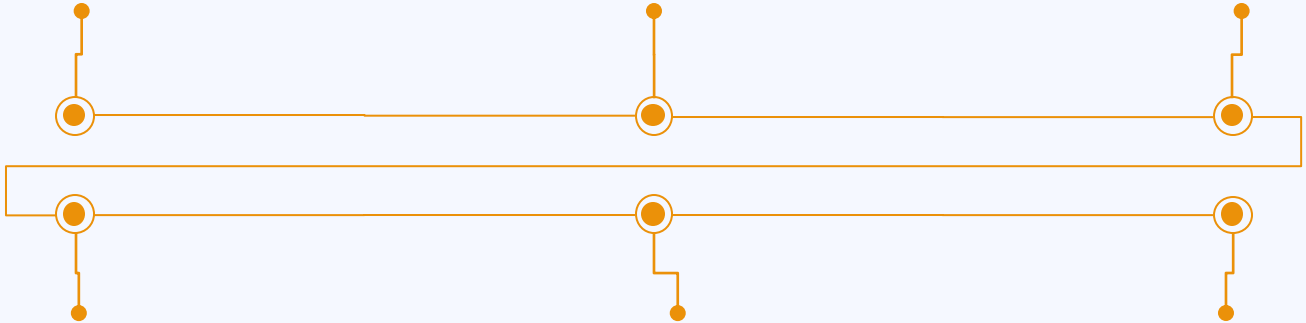
enjoyed **tech, logic,** and **problem-solving**

Uni

first exposure to **algorithms** & **data structures**

Side Projects

built small **ML models,** and tried out **AI tools**



Clubs

joined **AI-related** clubs → exposure to **real datasets**

Co-op

projects involving **machine learning** and **data pipelines**

AI Focus

found passion in areas like **NLP,** and **computer vision,** currently taking **CS 486**

How to Find Your Niche

Explore

Especially in first year, through **clubs**, **side projects**, **electives**

Strengths

Notice your strengths, do you enjoy proofs, building, analyzing data, designing interfaces?

Co-op

Experiment with co-ops! That's what they're for. Finding what you don't enjoy is as important as finding out what you do

Networking

Talk to mentors — **upper years**, **professors**, and **WiCS** members.

“It’s okay not to know your niche right away — your interests will grow and evolve as you do.”

There’s no rush. You have time to explore and discover what fits you best.