THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY (GUANGZHOU)

Career Development for Information Hub Students

INFH 6780, Spring 2025

Instructor: Dr. Zeyu Wang

Course info

This course aims at equipping RPg students of the Information Hub with the skills conducive to their professional career development. Topics include:

- Career paths, presentation skills
- Academic writing, visualizing ideas
- Managing your PhD demons
- How to approaching employers
- Personal experience and guest lectures

Course info

Instructors: Zeyu Wang, Clea Waite, Pan Hui, Hai-Ning Liang, Rachel Franz, Mark Grimshaw-Aagaard

Class meets weekly on Wed, 11:00-11:50 am, Lecture Hall A






Course info

Five TAs:

Yiyi GAO, Xiaohan HAO, Jin XIE, Qiming YE, Yuemeng ZHAO

Questions and requests:

infh-6780@hkust-gz.edu.cn reaches all instructors and TAs

Attendance policy

- 13 weeks of lectures. From week 2, all need to **attend physically** and **submit three takeaways** every week
- Each student may have up to two unexcused absences. More than two will result in failing the class
- If you want to apply for an excused leave, it can only be due to one of the following reasons and you must submit proof for it: **illness or injury** (with doctor/hospital visit report), **attending a conference or other academic matter** (with invitation letter including specific dates, or the university leave form with supervisor's signature)

▾ Upcoming Assignments

Week 2: Takeaways
Not available until Feb 19 at 11am | **Due** Feb 26 at 11am | -/100 pts

Week 3: Takeaways
Not available until Feb 26 at 11am | **Due** Mar 5 at 11am | -/100 pts

Week 4: Takeaways
Not available until Mar 5 at 11am | **Due** Mar 12 at 11am | -/100 pts

Week 5: Takeaways
Not available until Mar 12 at 11am | **Due** Mar 19 at 11am | -/100 pts

Week 6: Takeaways
Not available until Mar 19 at 11am | **Due** Mar 26 at 11am | -/100 pts

Week 7: Takeaways
Not available until Mar 26 at 11am | **Due** Apr 2 at 11am | -/100 pts

Week 8: Takeaways
Not available until Apr 2 at 11am | **Due** Apr 9 at 11am | -/100 pts

Week 9: Takeaways
Not available until Apr 9 at 11am | **Due** Apr 16 at 11am | -/100 pts

Week 10: Takeaways
Not available until Apr 16 at 11am | **Due** Apr 23 at 11am | -/100 pts

Academic integrity

Class size: 250 -> ~380

Organizational effort++

> Due to the significant increase in capacity for this classroom, Prof. Wang has considered that there are 992 students in the INFH program, and the number of students may increase in the future. To avoid leaving this issue unresolved, he has suggested that we accommodate all INFH students currently on the waiting list of INFH6780.
>
> As a result, we will be expanding the capacity by an additional 55 seats for this semester. Thank you very much for your support in this matter.

Attendance may be checked anytime between 11:00-11:50

Sharing QR code with others is strictly prohibited

Students with academic dishonesty will FAIL this class

Helpful and fun lectures. Only need 10/12 to pass

Questions?

WANG, Zeyu

香港科技大学(广州)
THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY (GUANGZHOU)
信息枢纽
INFORMATION HUB

Vision: Making content creation and consumption more intuitive and user-centric through an interdisciplinary effort into creative intelligence.

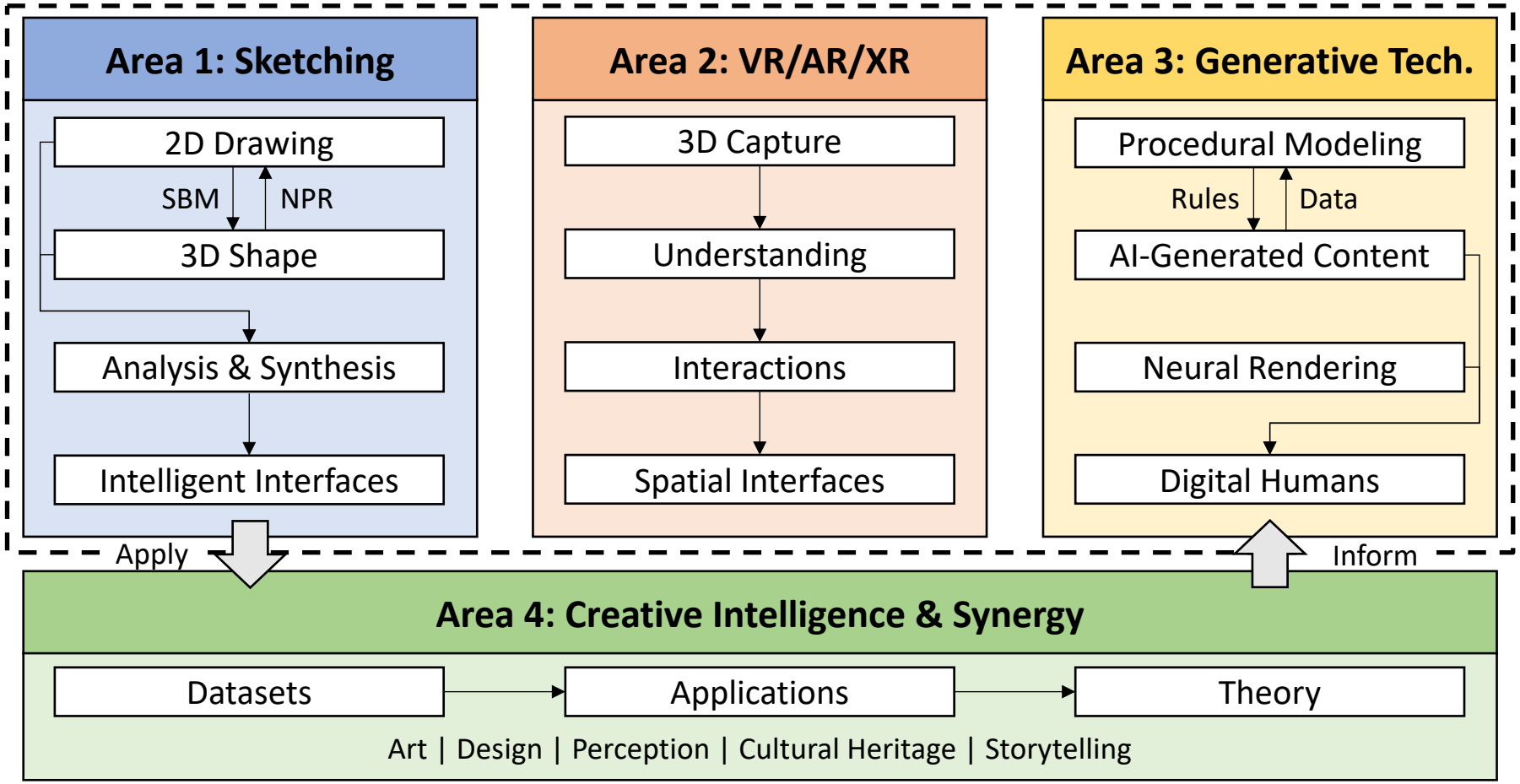
WANG, Zeyu
Assistant Professor, CMA & AI, HKUST(GZ)
Affiliate Assistant Professor, CSE, HKUST

Education:
BS in Artificial Intelligence, Peking University
PhD in Computer Graphics, Yale University

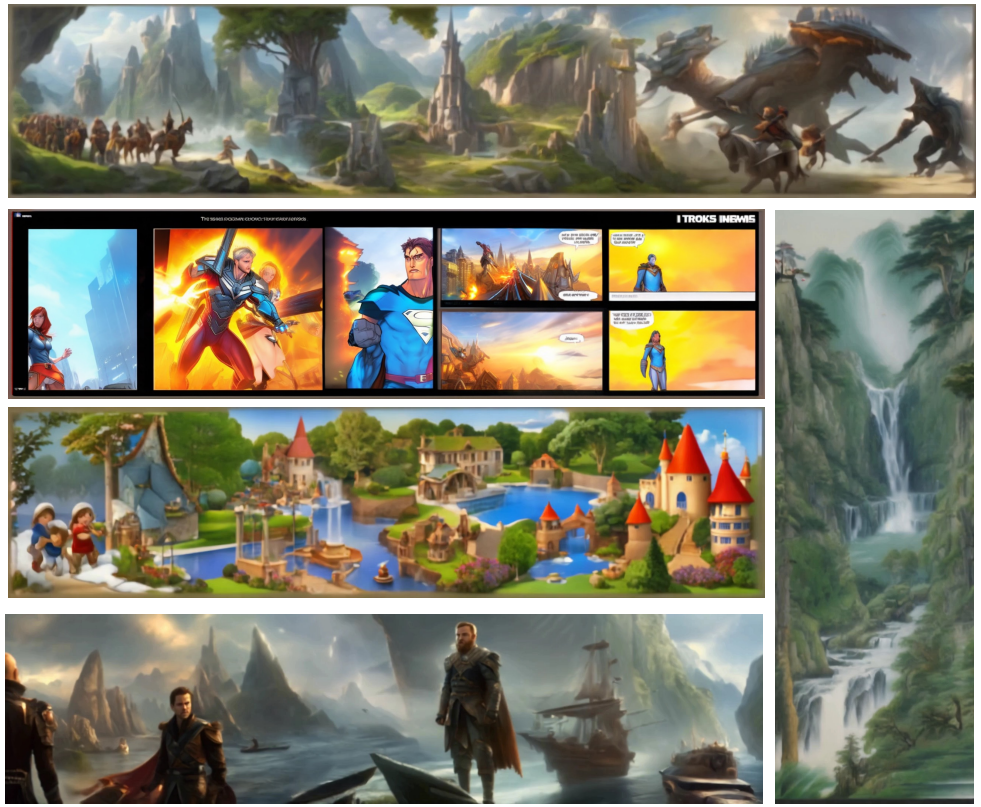
Team:
Creative Intelligence & Synergy (CIS) Lab
http://cislab.hkust-gz.edu.cn/

Industry Experience:
Adobe, Google, Microsoft

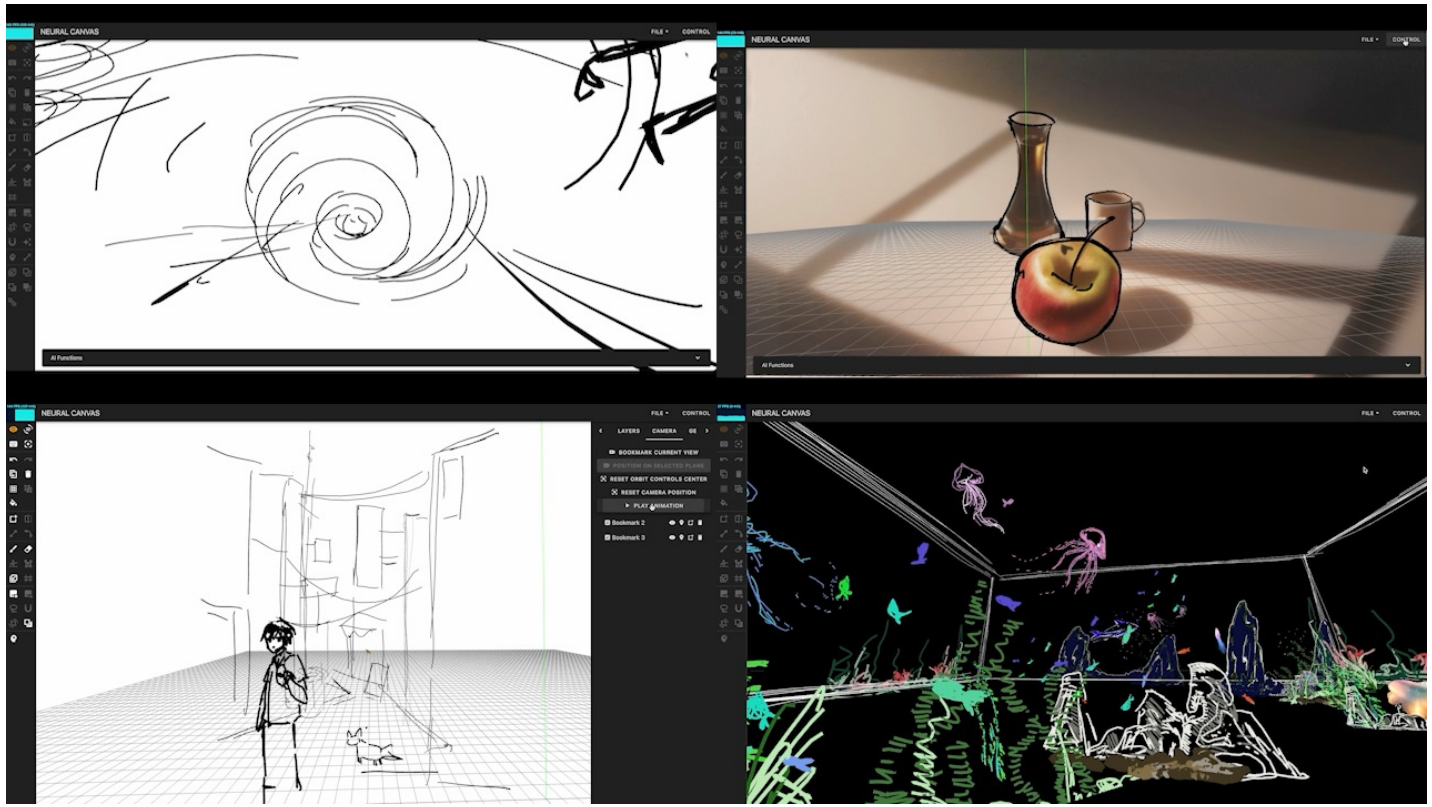
Achievements:
Adobe Research Fellowship
40+ Publications in CG, HCI, AI Venues
4 Best Paper or Honorable Mention Awards



Research Demos: Generative AI



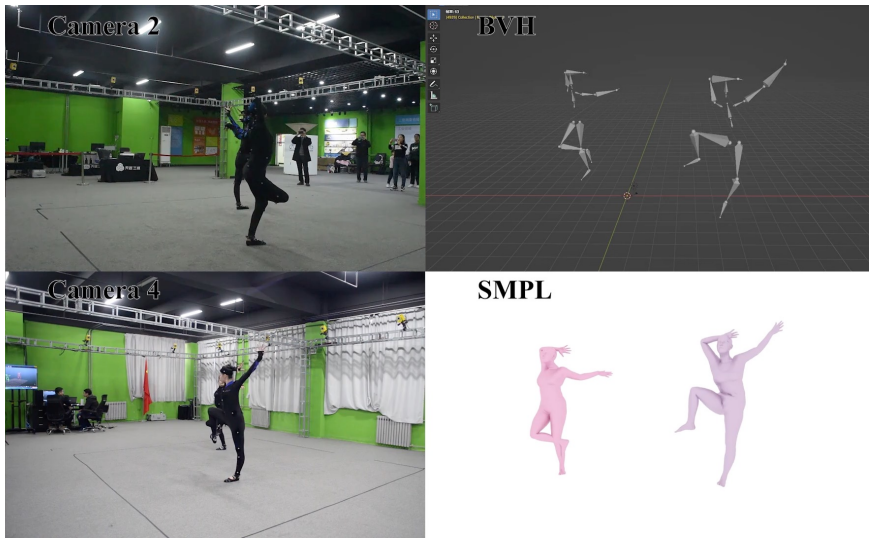
MagicScroll: text to scroll images for storytelling



Neural Canvas: 3D sketching + Gen AI for scenic design prototyping [CHI 2024]

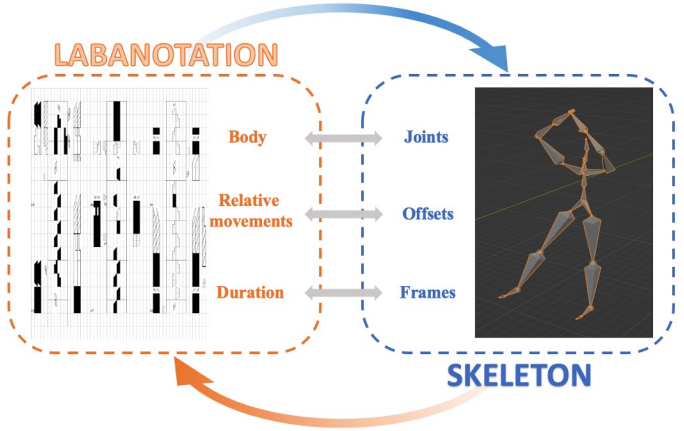
Research Demos: Digital Humans

SplattingAvatar: mesh-embedded Gaussian Splatting [CVPR 2024]



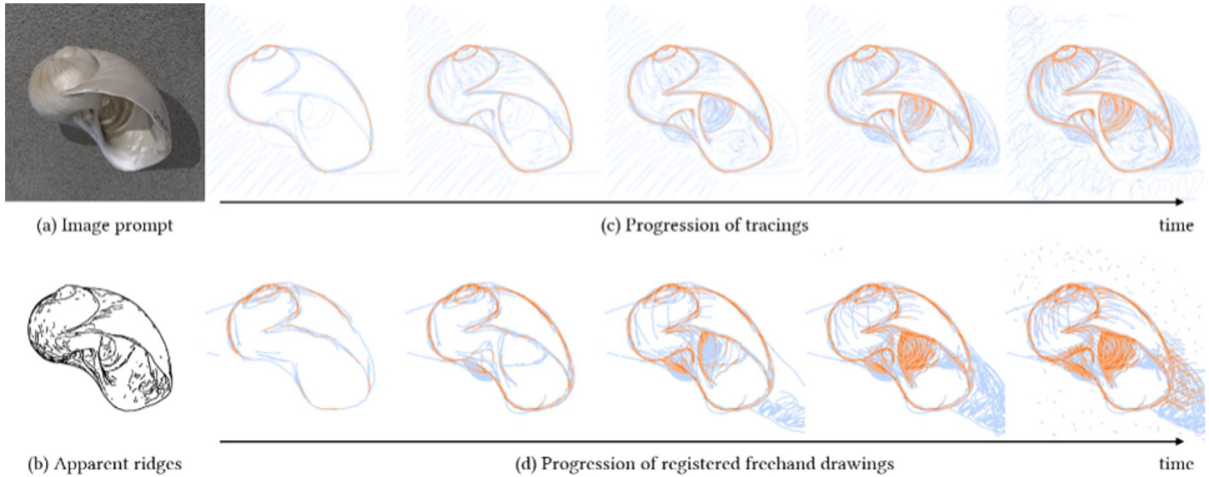
Motion capture for Dunhuang dance

HeadEvolver: text to avatar via locally learnable mesh deformation

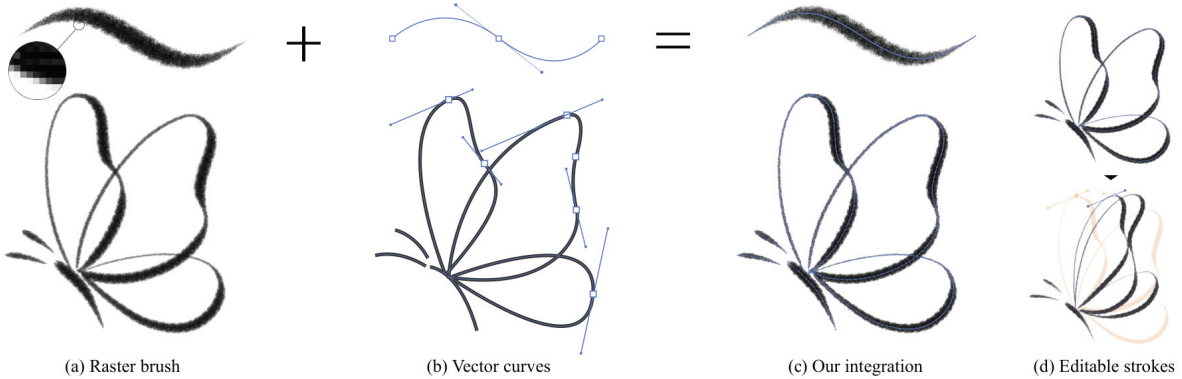


Dance notation to skeleton [PG 2023]

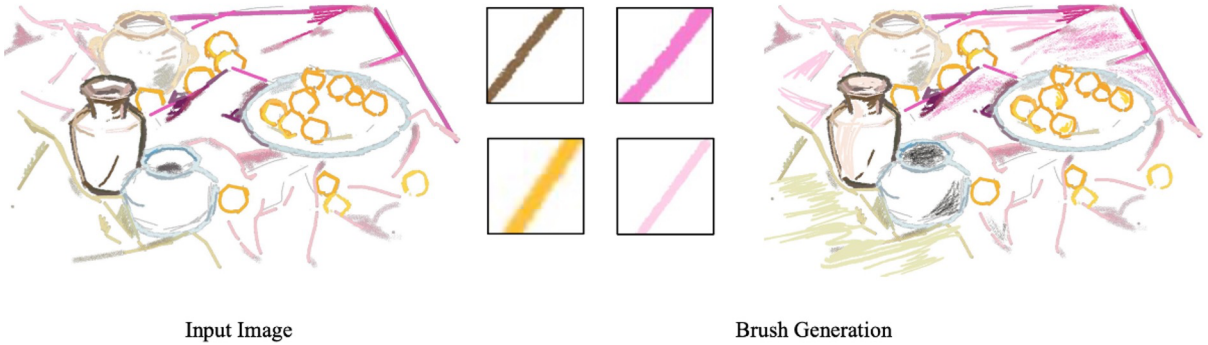
Research Demos: Digital Drawing



Tracing and freehand drawing process analysis [TOG 2021]



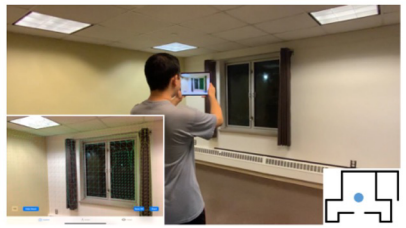
Expressive and efficient vector brush rendering



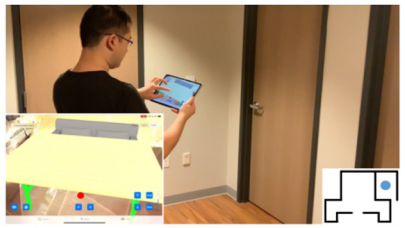
Brush stroke extraction and rendering [EG Short 2024]

3D sketching for flythrough video generation [EG GCH 2021]

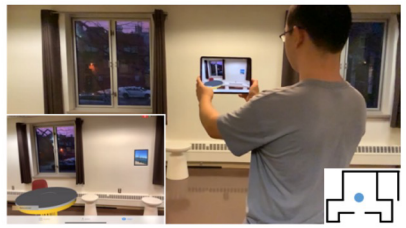
Research Demos: AR/VR Authoring



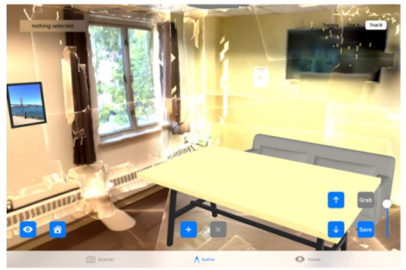
(a) Scanning



(b) Authoring

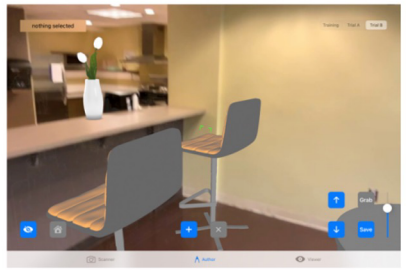


(c) Viewing



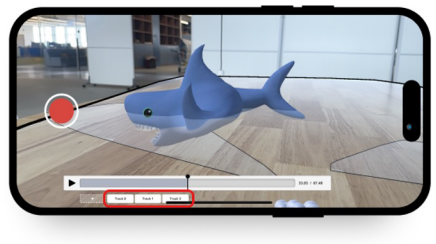
(d) PORTAL mode

(e) DOLLHOUSE mode

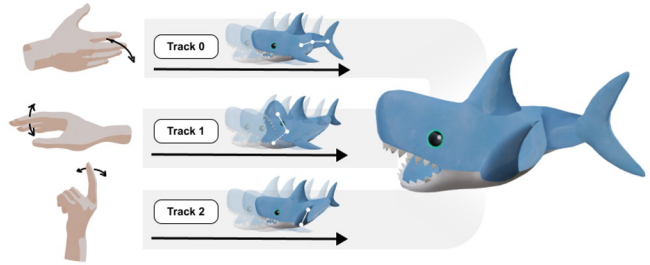


(f) PEEK mode

DistanciAR: remote AR authoring [CHI 2021]

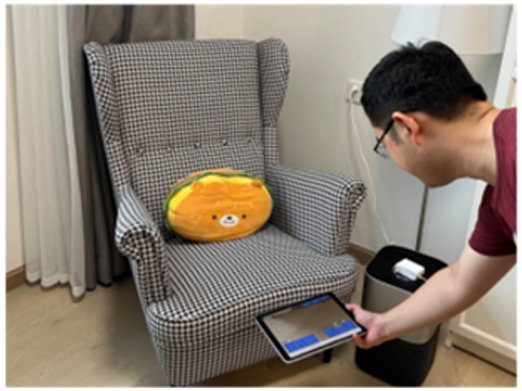


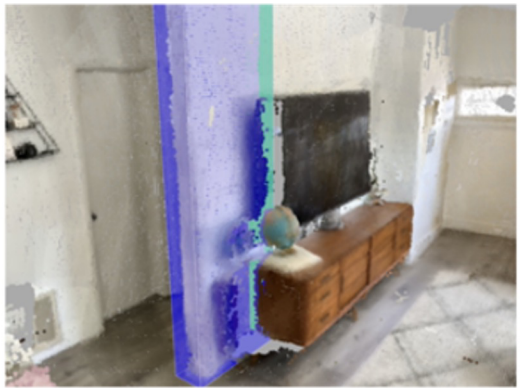
(a) The overall looking of the animating system



(b) The hierarchical control to compose a shark swinging, opening mouth and waving hand

AgileFingers: gesture-based character animation [VR Poster 2024]





PointShopAR: point cloud-based environmental design prototyping in AR [CHI 2023]

Course Outline

- In the coming three lectures, I will cover topics like:

- Career development paths
- My own career trajectory
- How to give a presentation
- How to apply for research jobs

Career paths

INDUSTRY

Engineer

Researcher

Full Professor

ACADEMIA

Tenured
Associate Professor

Tenure-Track
Assistant Professor

Research-Track
Teaching-Track

STARTUP

Entrepreneur

Optional
MBA

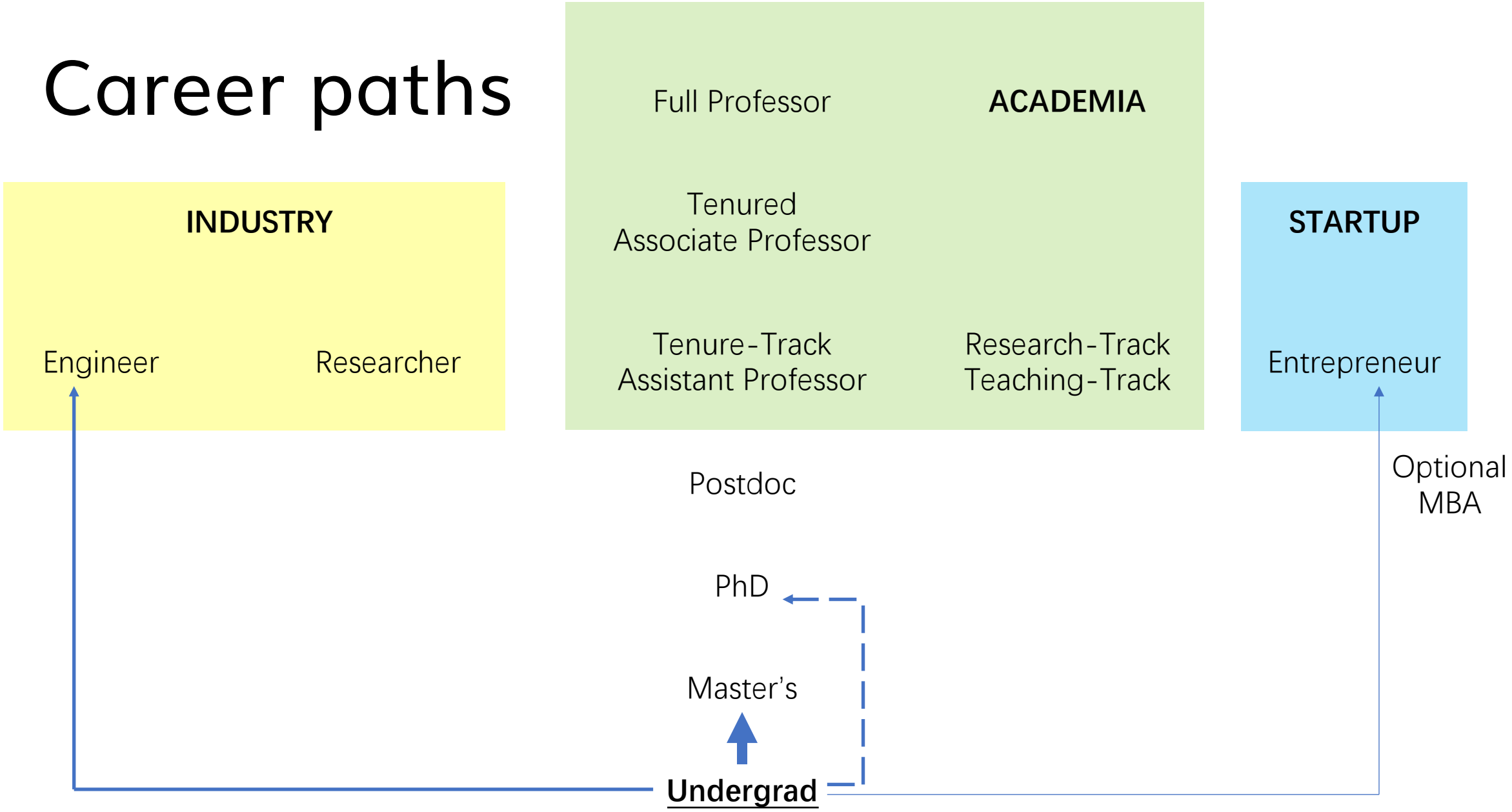
Postdoc

PhD

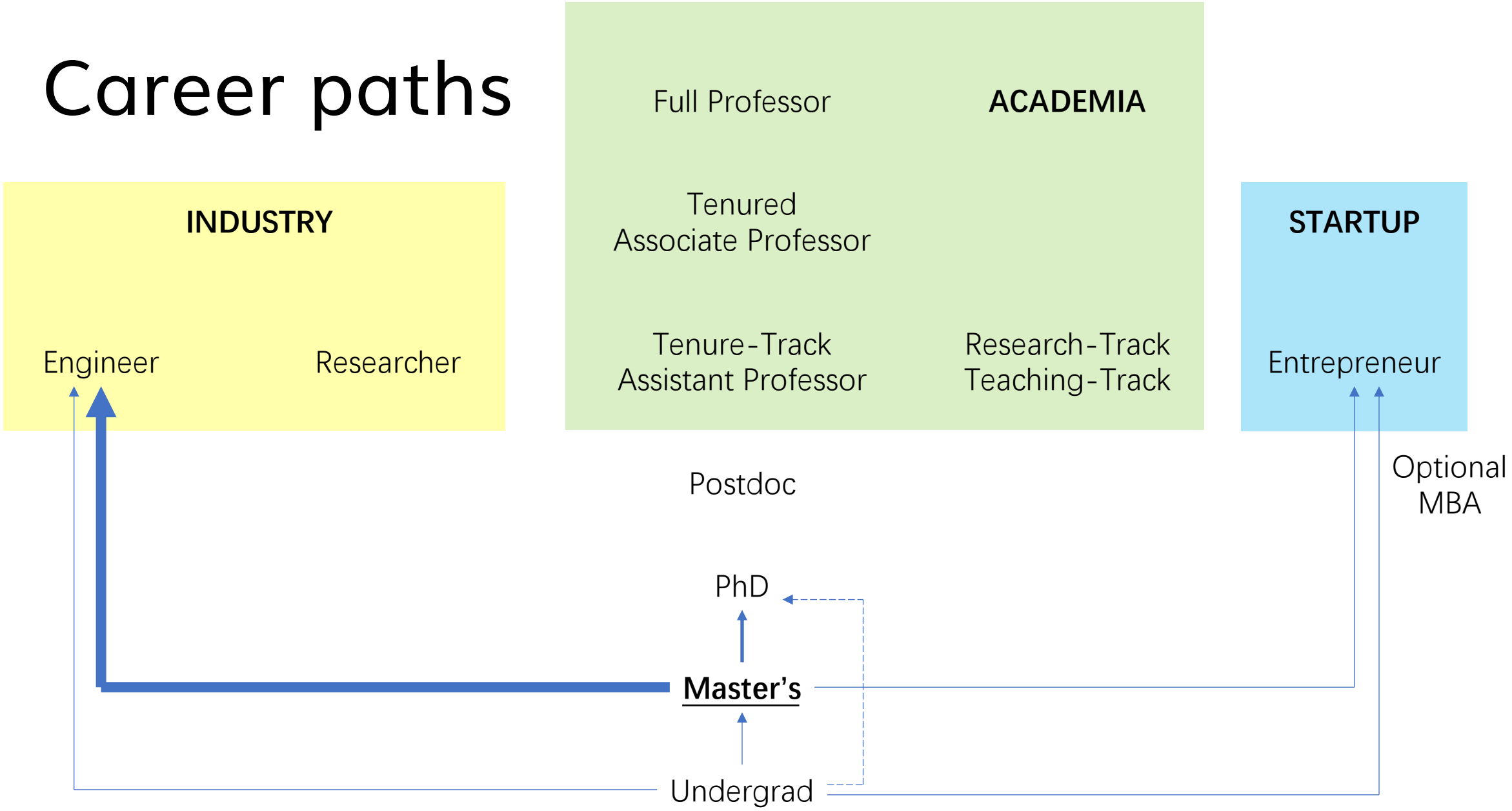
Master's

Undergrad

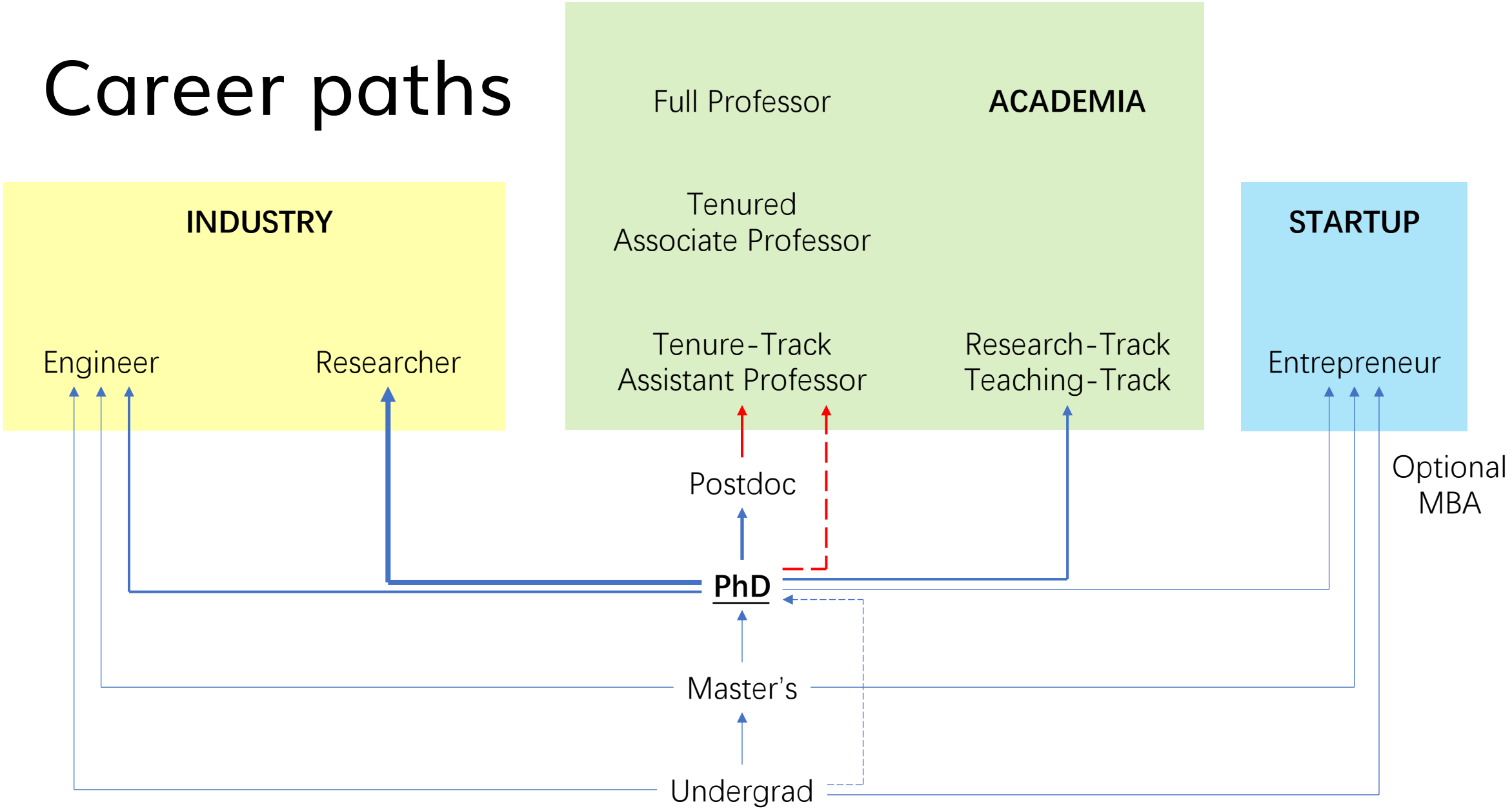
Career paths



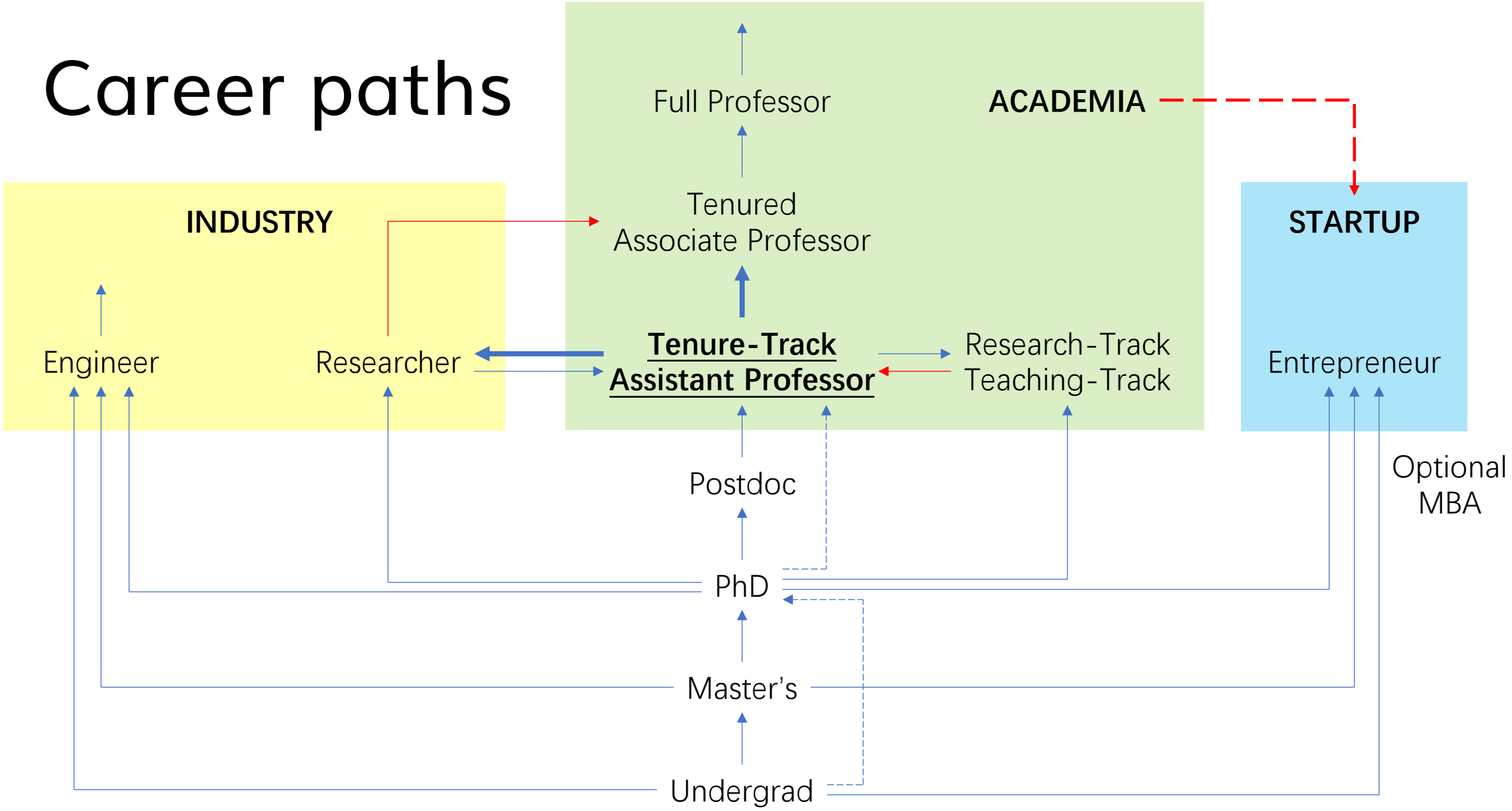
Career paths



Career paths

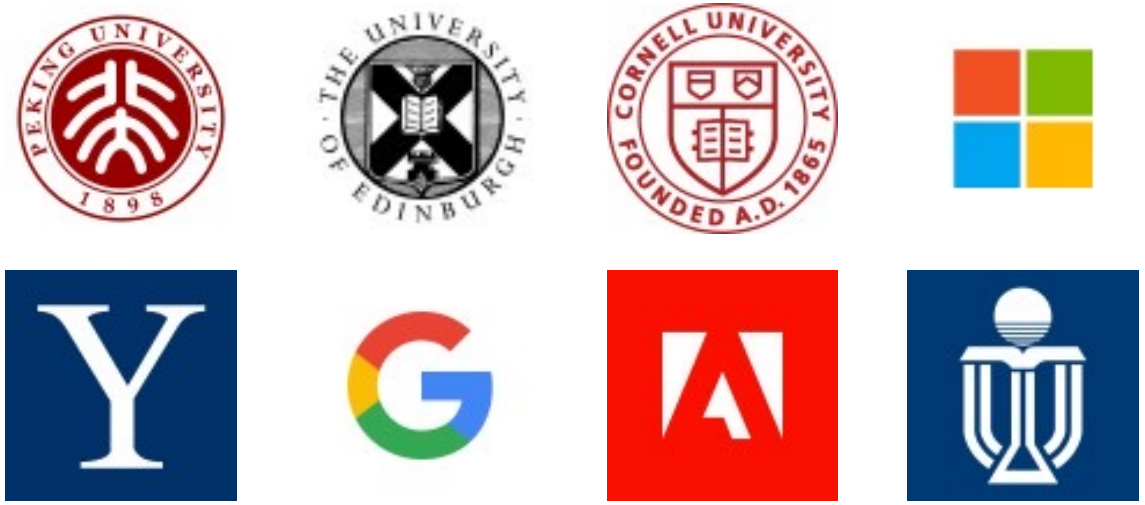


Career paths



My career path

- Peking University, BS (summa cum laude)
  - University of Edinburgh, Cornell University, Microsoft Research Asia
- Yale University, PhD
  - Google Research, Adobe Research
- HKUST(GZ), Assistant Professor



Pros and Cons of Career Options

- Tenure-Track Faculty
- Research Scientist
- Industry Research
- Industry

Credit: Prof. Frédo Durand (MIT)

Tenure-Track Faculty

- 3 jobs in one:
  - Teach
  - Research, advise
  - Raise money
  - Management
- Pros: teaching, grad students, flexibility of subject, long-term stability (if tenured)
- Cons: crazy workload, teaching, fundraising crap

Tenure

- Between 6 and 9 years
- Mostly based on external letters
- Other criteria
  - Teaching
  - Service
  - Fund raising
  - Relevance of area
  - Politics
- A place like MIT has roughly a 50% rate
- Failure does happen
- If denied tenure typical options are
  - Industry
  - Tenured position in lower-ranked university

Life Outside the US

- Canada
  - Similar to US, friendlier tenure, less money but more steady and less fundraising
- UK
  - Permanent position, less salary
- China
  - Old system: surprisingly similar to UK system
  - New system: tenure track (HK, top mainland universities)
- Singapore, Japan, Korea, Switzerland, Germany, France, …

Research Scientist

- A.k.a “Soft Money”
  - i.e., you need to raise enough for your salary + students + other lab money
- Common at MIT, CMU, UNC
- Pros: no teaching, access to students, can go back to faculty
- Cons: no teaching, huge pressure to raise money, not as stable

Industry Research

- E.g., MERL, MSR, Adobe, IBM, Intel, NVIDIA
- Pros: no teaching, little fundraising, can go back to Academia if publish papers
- Cons: no teaching, harder to get grad students (interns only), sometimes pressure to make the company happy, uncertain future (see IBM, Bell Labs & MERL)
- Careful with hierarchy of academia friendliness
  - Are papers the main evaluation criterion?
  - Old MERL > MSR > Nvidia > Nokia

Industry

- Pros: Money, could be less work, no teaching
- Cons: no teaching, not as much freedom, no going back

Skills You Wish You Learned at School

- Podcast with Dr. Dingzeyu Li
  - HKUST alumni
  - Columbia PhD
  - Senior Research Scientist at Adobe

0:00 节目预告
2:45 为什么李丁选择HKUST上本科?
13:15 为什么HKUST创校二三十年能取得如此成就?
30:31 港科大（广州）成立的背景和现状
35:24 为什么王泽宇选择加入港科大（广州）？
39:51 交叉学科教学和研究的机遇与挑战
43:55 以往的中外合作办学（内地港澳合作办学）是否成功？港科大（广州）有哪些优势?
48:54 传统高校建设交叉学科的挑战
59:40 Adobe的工作体会，哪些跨学科技能希望在大学教育里学习而未得?

Effectively Present Your Ideas to Anyone

- https://youtu.be/U9lUqNZvgjo?si=8LvangNLjtipqE50&t=3812

An expert explains a complex subject in five levels of complexity – WIRED

5 Levels

WIRED

26 videos 2,136,342 views Last updated on Dec 18,...

Play all

An expert explains a complex subject in five levels of complexity.

1 

Chess Pro Explains Chess in 5 Levels of Difficulty (ft. GothamChess) | WIRED

WIRED • 1.3M views • 3 months ago

2 

Harvard Professor Explains Algorithms in 5 Levels of Difficulty | WIRED

WIRED • 1.8M views • 4 months ago

3 

MIT Professor Explains Nuclear Fusion in 5 Levels of Difficulty | WIRED

WIRED • 407K views • 7 months ago

4 

Theoretical Physicist Brian Greene Explains Time in 5 Levels of Difficulty | WIRED

WIRED • 2.1M views • 10 months ago

5 

Mathematician Explains Infinity in 5 Levels of Difficulty | WIRED

WIRED • 3.9M views • 1 year ago

6 

Computer Scientist Explains the Internet in 5 Levels of Difficulty | WIRED

WIRED • 297K views • 1 year ago

7 

Computer Scientist Explains One Concept in 5 Levels of Difficulty | WIRED

WIRED • 467K views • 1 year ago

Next Week's Preview

- Prof. Keenan Crane (CMU) explaining fractals

Geometer Explains One Concept in 5 Levels of Difficulty | WIRED

284K views • 1 year ago

WIRED

Computer scientist Keenan Crane, PhD, is asked to **explain** fractals to **5** different people; a child, a teen, a college student, a grad ...

CC