美研申请经验分享

普通学生该如何做申请?

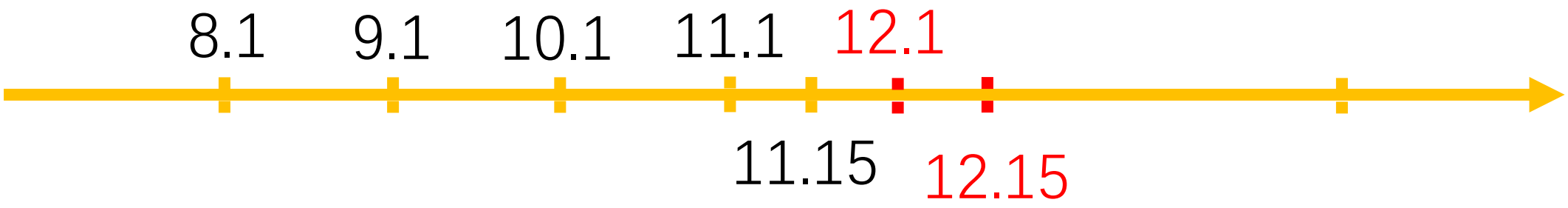
主讲人：20-ECE-韩笑宜

如果你

- GPA并不是年级前10%
- 没有重量级的科研成果和产出
- 没有强有力的connection

- 想申请1.5至2年毕业的研究生
- 想同时保留读博和工作的可能性

Timeline



- 12.15: 大部分学校的网申截止
- 12.1: TOP的网申截止
- 11.15: 开始网申填写-推荐信和语言成绩送达
- 11.1: 申请文书 (PS & SOP)
- 10.1: 申请文书 (CV)
- 9.1: 选校&推荐信
- 8.1: 语言&中介

申请后
- 录取结果：2-4月中旬
- 接offer DDL: 3.31-4.15

Aa 学校简称	DDL
CMU	December 15, 2023
Umich	January 15, 2024
UCLA	December 15, 2023
Georgia-IoT	December 16, 2023
Columbia	January 15, 2024
Northwestern	February 28, 2024
Harvard	December 1, 2023
ETH	December 15, 2023
EPFL	December 15, 2023
UIUC	December 15, 2023

语言-够用就行

- GRE：大部分项目不需要，如果有特别想去的项目要求可以考
- 英语：达标就行，提前去官网看，满足一个就行
  - 托福
  - 多邻国
  - 美本免交

学校名称	英文名称	TOEFL	GRE	Duolingo
哈佛大学	Harvard University	1. Code: 3451 2. 美本免交 3. 80	No Need	/
卡耐基梅隆	Carnegie Mellon University	1. Code: 2074 2. minimum: 84 (IBT-R 22, IBT-L 22, IBT-S 18, and IBT-W 22)	optional	105 (Literacy-105, Comprehension-115, Production-70, Conversation-95)
杜克大学	Duke University	1. code 5156 2. 90	optional	125
密歇根安娜堡	University of Michigan--Ann Arbor	1. code: 1839 2. 84	No Need (for 美本)	
苏黎世联邦理工	ETH Zurich - Swiss Federal Institute of Technology	1. code:9038 2. 100 3. MyBest™ scores for the TOEFL iBT® test are accepted.	No Need	/
加利福尼亚大学洛杉矶分校	University of California--Los Angeles	1. code: 4837 2. 87	No Need	/
佐治亚	Georgia Institute of Technology	1. 美本免交 2. 90 (each section must score 19 or higher) 3. code: 5248	Optional	/
洛桑联邦理工	Ecole Polytechnique Fédérale de Lausanne (EPFL)	optional	optional	/
哥伦比亚大学	Columbia University	1. Code: 2111 2. 99	1. Optional for Spring and Fall 2024 applications 2. School Code: 2111	135+
霍普金斯	Johns Hopkins University	1. Code C599 2. 100 3. 美本免交	Required	
康奈尔	Cornell University	1. Code 2098 2. S22+ R20+ L15+ W20+	No Need	
伊利诺伊厄巴纳香槟	University of Illinois-Urbana-Champaign	1. Code:1863 2. 96 / 103	optional	1. University of Illinois, Urbana-Champaign Graduate Admissions 2. 135
美国西北大学	Northwestern University	90	No Need	/
南加州	University of Southern California	an Internet Based TOEFL (iBT) score of 90, with no less than 20 on each sub-score	No Need	

中介-良莠不齐

- 一定搞清楚自己想要的帮助是什么，别被天花乱坠的语言和中介的套路忽悠
- 多聊几家中介，再做决定
- 别被中介牵着走：“最好再刷高语言和GRE”、“买科研和实习”
- 不管是全包还是半包都需要时刻盯紧中介

- 反面案例：
  - 打压式：拿CS的定位忽悠ECE的申请，结果好就是他们的功劳
  - 鼓吹式：拿华而不实的“老牌名校”忽悠，让你相信能申到很好的学校
  - ！不负责任：错过DDL，文书乱写/模板化，忘申还给假拒信

中介-良莠不齐

- 我的中介：半包
- 选校定位&往届案例：大部分人的选择，有一定的参考价值
- 文书修改：没什么用，不如写完用Chatgpt修改
- 专业导师指导：
  - Upenn Robotics的教授
  - 对选专业方向和文书攥写帮助比较大，特别是简历修改和项目串联

选校-做好前期的信息收集工作

- 信息收集的三个渠道
  - 各色中介：直接拿着BG去问，都会先给你选校定位推荐，多问几家
  - ZJUI飞跃手册：最真实没有水分的案例，找情况差不多的上一届做对照
  - 留学直播间：见仁见智，有时间看看，但是信息鱼龙混杂要自己判断
- 根据未来规划选校
  - 读博 or 找工?
  - 留美 or 回国?

选校-做好前期的信息收集工作

- QS和Usnews
  - 回国要看QS，留美可以参考USnews
- 项目信息归纳和申请难度定位
  - 冲 or 稳 or 保?
  - 强connection or 强commity ?

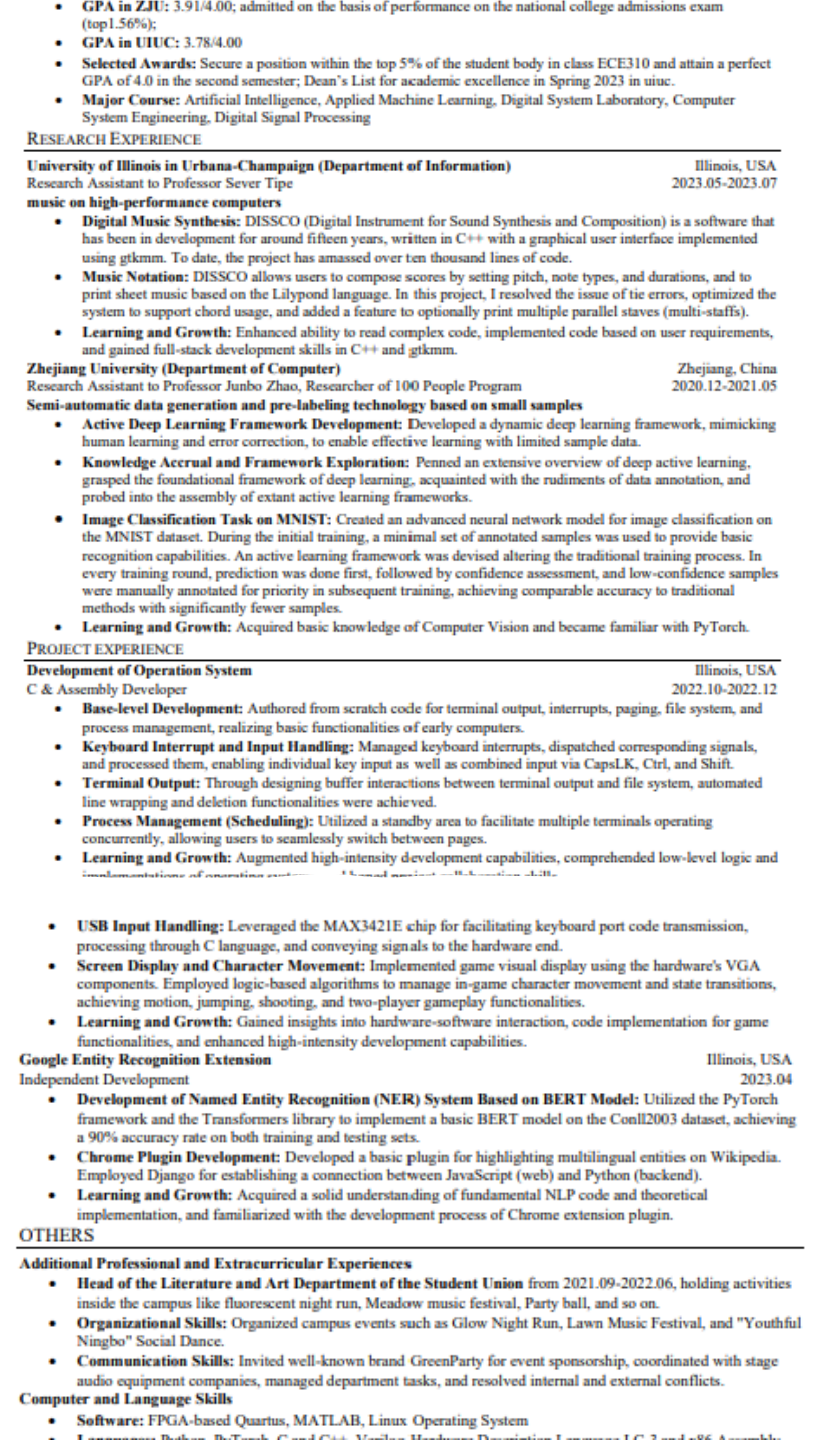
学校名称	QS综合	QS专业	Usnews综合	Usnews专业
MIT	1	1	2	1
CMU	52	2	24	4
Stanford	5	3	3	1
Berkeley	10	4	15	1
Havard	4	8	3	17
ETH	7	9	/	/
EPFL	36	10	/	/
Princeton	17	13	1	8
Washington	63	14		5
Cornell	13	17	12	7
California--Los Angeles	29	18	15	14
Columbia	23	23	12	14
UIUC	64	25	35	5
NYU	38	26	35	35
Geogia IoT	88	28	33	8
Texas--Austin	58	36	32	8
California IoT	15	36	7	14
Yale	16	36	5	20
Pennsylvania	12	43	6	17
Michigan--Ann Arbor	33	44	21	11
California--San Diego	62	44	28	12
Chicago		52	12	24
Southern California		55		24
Purdue		68		20
Johns Hopkins	28	72	9	23
Duke	57	85	7	20
Wisconsin--Madison				12
Maryland--College Park				17
Ohio				24
California--Santa Barbara				24
Massachusetts--Amherst				24
North Carolina				24
Virginia			24	24
Brown	73		9	31
Northwestern	47		9	31
Rice			17	31
California--Irvine				31
Northeastern				35

推荐信-尽快要

- 科研推>课程推 （实习看title）
- UIUC > ZJU，外籍教授优先
  - 国内教授尤其是中国人的认可度不高，默认国内教授都是把链接发给学生自己填写的
  - 国内外籍教授或者有海外留学经历丰富的教授认可度会好一点
  - 最好能找UIUC教授要推荐信
- 3-4封，至少一封科研推
  - 一般申请需要3封，如果能保证教授很靠谱的话，只要3封也行
  - 如果不止准备一个方向的申请，可以准备4封

CV-比PS&SOP重要

- 制作简历要点
  - 两页
  - 重点清晰
  - 为申请方向量身打造
  - 不需要花里胡哨，用UIUC的模板就行
  - 用语流畅，别太晦涩
  - 板块：Education, Research Experience, Project Experience, Awards & Skills



- **GPA in ZJU:** 3.91/4.00; admitted on the basis of performance on the national college admissions exam (top1.56%);
- **GPA in UIUC:** 3.78/4.00
- **Selected Awards:** Secure a position within the top 5% of the student body in class ECE310 and attain a perfect GPA of 4.0 in the second semester; Dean's List for academic excellence in Spring 2023 in uiuc.
- **Major Course:** Artificial Intelligence, Applied Machine Learning, Digital System Laboratory, Computer System Engineering, Digital Signal Processing

RESEARCH EXPERIENCE

University of Illinois in Urbana-Champaign (Department of Information) Illinois, USA
Research Assistant to Professor Sever Tipe 2023.05-2023.07
music on high-performance computers

- **Digital Music Synthesis:** DISSCO (Digital Instrument for Sound Synthesis and Composition) is a software that has been in development for around fifteen years, written in C++ with a graphical user interface implemented using gtkmm. To date, the project has amassed over ten thousand lines of code.
- **Music Notation:** DISSCO allows users to compose scores by setting pitch, note types, and durations, and to print sheet music based on the Lilypond language. In this project, I resolved the issue of tie errors, optimized the system to support chord usage, and added a feature to optionally print multiple parallel staves (multi-staffs).
- **Learning and Growth:** Enhanced ability to read complex code, implemented code based on user requirements, and gained full-stack development skills in C++ and gtkmm.

Zhejiang University (Department of Computer) Zhejiang, China
Research Assistant to Professor Junbo Zhao, Researcher of 100 People Program 2020.12-2021.05
Semi-automatic data generation and pre-labeling technology based on small samples

- **Active Deep Learning Framework Development:** Developed a dynamic deep learning framework, mimicking human learning and error correction, to enable effective learning with limited sample data.
- **Knowledge Accrual and Framework Exploration:** Penned an extensive overview of deep active learning, grasped the foundational framework of deep learning, acquainted with the rudiments of data annotation, and probed into the assembly of extant active learning frameworks.
- **Image Classification Task on MNIST:** Created an advanced neural network model for image classification on the MNIST dataset. During the initial training, a minimal set of annotated samples was used to provide basic recognition capabilities. An active learning framework was devised altering the traditional training process. In every training round, prediction was done first, followed by confidence assessment, and low-confidence samples were manually annotated for priority in subsequent training, achieving comparable accuracy to traditional methods with significantly fewer samples.
- **Learning and Growth:** Acquired basic knowledge of Computer Vision and became familiar with PyTorch.

PROJECT EXPERIENCE

Development of Operation System Illinois, USA
C & Assembly Developer 2022.10-2022.12

- **Base-level Development:** Authored from scratch code for terminal output, interrupts, paging, file system, and process management, realizing basic functionalities of early computers.
- **Keyboard Interrupt and Input Handling:** Managed keyboard interrupts, dispatched corresponding signals, and processed them, enabling individual key input as well as combined input via CapsLK, Ctrl, and Shift.
- **Terminal Output:** Through designing buffer interactions between terminal output and file system, automated line wrapping and deletion functionalities were achieved.
- **Process Management (Scheduling):** Utilized a standby area to facilitate multiple terminals operating concurrently, allowing users to seamlessly switch between pages.
- **Learning and Growth:** Augmented high-intensity development capabilities, comprehended low-level logic and

- **USB Input Handling:** Leveraged the MAX3421E chip for facilitating keyboard port code transmission, processing through C language, and conveying signals to the hardware end.
- **Screen Display and Character Movement:** Implemented game visual display using the hardware's VGA components. Employed logic-based algorithms to manage in-game character movement and state transitions, achieving motion, jumping, shooting, and two-player gameplay functionalities.
- **Learning and Growth:** Gained insights into hardware-software interaction, code implementation for game functionalities, and enhanced high-intensity development capabilities.

Google Entity Recognition Extension Illinois, USA
Independent Development 2023.04

- **Development of Named Entity Recognition (NER) System Based on BERT Model:** Utilized the PyTorch framework and the Transformers library to implement a basic BERT model on the Conll2003 dataset, achieving a 90% accuracy rate on both training and testing sets.
- **Chrome Plugin Development:** Developed a basic plugin for highlighting multilingual entities on Wikipedia. Employed Django for establishing a connection between JavaScript (web) and Python (backend).
- **Learning and Growth:** Acquired a solid understanding of fundamental NLP code and theoretical implementation, and familiarized with the development process of Chrome extension plugin.

OTHERS

Additional Professional and Extracurricular Experiences

- **Head of the Literature and Art Department of the Student Union** from 2021.09-2022.06, holding activities inside the campus like fluorescent night run, Meadow music festival, Party ball, and so on.
- **Organizational Skills:** Organized campus events such as Glow Night Run, Lawn Music Festival, and "Youthful Ningbo" Social Dance.
- **Communication Skills:** Invited well-known brand GreenParty for event sponsorship, coordinated with stage audio equipment companies, managed department tasks, and resolved internal and external conflicts.

Computer and Language Skills

- **Software:** FPGA-based Quartus, MATLAB, Linux Operating System

PS-Personal Statement

- 一般500词
- 讲述自身经历，不一定与专业相关
- 政治正确就行，闭眼夸自己
- e.g.
  - Describe challenge(s) or barriers that you have faced in your pursuit of higher education. What motivated you to persist, and how did you overcome them? What is the evidence of your persistence, progress or success?
  - How do you see yourself contributing to diversity in your profession after you earn your advanced degree at UCLA?

SOP – Statement of Purpose

- 一般1000字
- 讲完整的学术故事，关于你为什么要来我们学校读这个专业和这个方向，这个项目是如何契合你的学术理想和未来职业规划的
- 不需要生硬的一个个回答给出的问题，要把回答串联起来且融入自己在CV上展示的项目带给自己的启发
- 如果说CV是讲你会什么，做过什么，SOP就是讲述你做这些项目过程中遇到了什么困难，如何克服的，带给你什么启发，以及为什么要选择申请这个项目，最后展望下美好的未来和自己强烈的希望就读项目的决心

网申-仔细仔细再仔细

- 不要错过DDL！！！ 可以列表辅助网申填写进度
- Double Check，不要赶DDL
- 有中介也要自己盯进度：申请项目填错，直接错过DDL

Aa 学校简称	DDL	网申website	培养计划	未提交材料	推荐信	语言成绩状态	完成情况	Result
CMU	December 15, 2023	gradadmissions.engineering.cmu.edu/apply/	Advanced Study Program Standard Program	Finish	Finish	Done	Done	AD
Umich	January 15, 2024	applyweb.com/cgi...umgrad	Embedded System	Finish	Finish	Done	Done	AD
UCLA	December 15, 2023	apply.grad.ucla.edu/por...anding	Embedded System	Finish	Finish	Done	Done	AD
Georgia-IoT	December 16, 2023	gradapp.gatech.edu/apply/		Finish	Finish	Done	Done	AD
Columbia	January 15, 2024	apply.engineering.columbia.edu/apply/		Finish	Finish	Done	Done	AD
Northwestern	February 28, 2024	applyweb.com/nug...ex.ftl		Finish	Finish	Done	Done	AD
Harvard	December 1, 2023	gsas.harvard.edu/apply		Finish	Finish	Done	Done	RE
ETH	December 15, 2023	lehrbetrieb.ethz.ch/eAp...w.view		Finish	Finish	Done	Done	RE
EPFL	December 15, 2023	isa.epfl.ch/imo...master		Finish	Finish	Done	Done	RE
UIUC	December 15, 2023	choose.illinois.edu/apply/		Finish	Finish	Done	Done	RE

+ New