

陶雨迪 (Yudi Tao)

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教育

- (荣誉)学士 计算机科学**
安大略省理工大学, 加拿大
九月 2016 - 五月 2020
完成全部本科计算机科学科目, 专业平均绩点 (GPA) 3.15
- 辅修 数学**
安大略省理工大学, 加拿大
九月 2020 - 六月 2021

主修课程

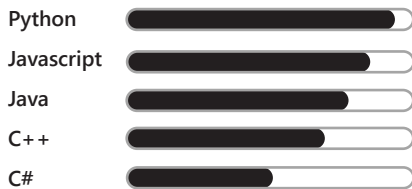
网页开发 机器学习 人机交互 软件开发
计算机视觉 计算机图形学 数字媒体
数据库管理 科学数据分析 数据可视化

辅修课程

复分析 最优化 计算科学 多元微积分

技术栈

编程语言



操作系统

CentOS / Ubuntu / Windows

计算机图形、视觉

OpenGL, OpenCV

网站前端、后端开发

MySQL, MongoDB
HTML/CSS, JQuery, Node.js, Express
React, Vue, Angular

机器学习 (Python)

Tensorflow, Sklearn
CNN, GANS
Matplotlib, Pandas, Numpy,

DevOps 工具

Git, Docker

图片、3D处理、办公软件

Microsoft Office
Adobe Creative Suit - Photoshop, illustrator
Blender, Unity, Unreal 4

推荐人

- Peter Sheng (信息系统高级经理)
关系: 课程与科研项目: 立体视觉原理及其应用研究 (The Thery and Its Application of Stereoscopic Vision) 指导 (推荐信附后)

在校经历

安省理工大学, 加拿大

课程辅导员 秋季 2019 - 夏季 2021

帮助辅导大一、大二新生Python与C++课程。
组织课后回顾与考前复习。
负责回答一切与课程有关的问题。

校外经历

秋季 2021 - 夏季 2022

在校参与课外科研项目研究。
在项目指导下带领研究并实践Transformer模型, 使用Python搭配Tensorflow搭建了乐谱转录机器学习模型, 收集相关数据并投入到模型中训练。

夏季 2022 - 春季 2023

在校继续进行课外科研项目研究。
在此期间使用Python搭配Tensorflow自主搭建法线贴图机器学习模型, 收集相关数据并根据贴图相关原理应用到模型中训练。

个人项目

立体视觉原理及其应用研究

(The Thery and Its Application of Stereoscopic Vision)

七月 2021 - 四月 2023

- 在校参与课外科研项目研究并提交了一份有关于计算机视觉的研究报告。
- 报告主题为“立体视觉的原理以及实践”并简述和展示其两种算法——方块匹配和半全局方块匹配法, 并为这两种算法创建了一个演示程序。
- 与小组成员在学校进行演讲并演示, 并完成一篇报告文章, 最终被学校采纳并展示在院系网站。
- 根据其理论及原理进一步带入到机器学习案例中实践并构建相关模型。

乐谱转录机器学习模型与法线贴图学习模型

十二月 2020 - 至今

<https://github.com/Doomino/Music-Sheet-Transcription>
<https://github.com/Doomino/Normal-Map-GANs>

- 使用Tensorflow搭建的机器学习模型, 使用傅里叶变换及声调识别等原理, 应用Transformer架构, 从MP3还原出MIDI乐谱。
 - 在网络及相关数据库收集并整理300+首音乐数据, 通过python及相关模块切片并筛选出不同音频数据共6000+多段。
 - 设计并构建变换器模型并将数据投入, 最终经过训练后可以从音频中分辨出特定音色, 并转换为MIDI文件输出。
- 使用Tensorflow搭建的机器学习案例, 使用的GANs架构, 通过输入材质贴图来生成对应的法线贴图。
 - 根据图片特征构建GAN模型, 并将数据集中的纹理及法线贴图筛选、整合, 之后投入模型训练,
 - 在多次训练之后此模型可以做到由非复杂纹理图片生成其法线贴图, 并可以批量处理图片并导出为文件。

飞鸟模拟系统

一月 2021 - 四月 2021

https://github.com/Doomino/Flocking_Boids

- 在计算机图形课程上实现了一个图形程序, 主题为集群飞鸟 (Flocking Boids) 的原理及模拟。
- 课程中利用OpenGL为其制作演示动画, 并最终在校园展示。
- 项目最终提交了一份8000字的英文报告, 详细阐述相关原理及各项部分的实现方法。

加拿大农业发展数据可视化

一月 2019 - 四月 2020

<https://github.com/Doomino/Agriculture-visualization>

- 带领团队共收集并整理了加拿大近20年天气, 农业及地形数据。并建立了一个用于分析各种农作物的农业数据和加拿大各地的气象数据之间的相关性的网站。
- 参议并设计、制作3个可视化图表, 并互相整合与连接, 使图表直观表现出降雨及气温对于不同作物的影响。

Letter of Recommendation

Name of Referee: Peter Sheng

Title of Referee: Senior Manager Information Systems

Workplace of Referee: Fortinet Technologies (Canada)

Relationship with Applicant: Course and research project advisor

Contact Information of Referee: psheng@fortinet.com; 1-613-225-9381 ext. 87815

To Whom It May Concern,

I am writing this letter of recommendation for Yudi Tao, whom I have had the pleasure of providing guidance in his research project "The Theory and Its Application of Stereoscopic Vision" and the courses of "Computer Vision", "Machine Learning" and "Computer Networks".

Yudi Tao has shown great interest and aptitude in research projects. During his project titled "The Theory and Its Application of Stereoscopic Vision", he demonstrated his ability to read and synthesize English literature, and was able to effectively integrate his own innovative ideas with those of his team members. He displayed rigorous thinking and a thorough understanding of the principles and practices of the research object. Additionally, he has good collaboration and organizational skills, and is able to effectively communicate and cooperate with his professor and team members in setting up experiments.

Yudi Tao is an outstanding learner who consistently ranks among the top of his class in his major courses. He possesses a deep understanding of the principles and application methods of some machine learning techniques, and has a solid grasp of computer graphics and computer vision. In his spare time, he has also explored web development and built his own personal website with reference to online resources.

In terms of his personal qualities, Yudi Tao is sincere and courteous in his interactions with his teachers and peers. He is always willing to help others, and is diligent and responsible in his work.

Based on Yudi Tao's excellent performance and potential for scientific research, I highly recommend him for a position in your company. I am confident that he will excel in any tasks given to him.

Sincerely,

Peter Sheng

September 22, 2022

