毕晓栋

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教育背景

- **同济大学电子信息与工程学院** 上海
  主修: 计算机科学与技术 *2017.09 至今*
  - **绩点:** 91.34/100.00, **GPA 排名:** 10.1% (第 16 名/共 159 人), **综合排名:** 1.25% (第 2 名/共 159 人)
  - **相关课程:** 高级语言程序设计 (优/优), 数据结构 (优), 算法 (优), 数据库原理 (优), 操作系统 (良), 计算机组成原理 (优), 计算机体系结构 (优), 计算机图形学 (优), 人工智能 (优), 模式识别 (优), 数据挖掘 (优), 机器学习 (优), 多媒体技术 (优)
- **数学强化与计算机交叉培养实验区, 同济大学数学科学学院** 上海
  主修: 计算机科学与技术, 辅修: 数学 *2017.09-2019.01*
  - **绩点 (大一上):** 4.37/5.00, **绩点 (大一下):**4.81/5.00, **绩点 (大二上):**4.78/5.00, **排名 (计算机类):** 第 1 名/共 15 人
  - **相关课程:** 数学分析 (良/优), 高等代数 (优/优), 数学实验 (良/优), 概率论 (优), 统计学 (优), 数值分析 (良), 数学建模 (优), 常微分方程 (优), 组合数学 (优), 复变函数 (优)

项目和经历

- **机器学习组, 微软亚洲研究院** 北京
  机器学习研究实习生 *2020.06 至今*
  - 研究方向为机器学习在量化投资的应用，量化研究平台 Qlib 开源小组主要成员，获得超过 4.9k Star。
- **同济大学 ACM 程序设计竞赛暑期集训队** 上海
  队长, 组织者 *2019.06 - 2019.09*
  - 在叶晨教练的指导下, 举办网络算法讲堂, 为集训队进行算法的网络授课，并举办多次比赛训练集训队队员和选拔新队员。
  - 多次参加 ACM-ICPC 国际大学生程序大赛并获得优异成绩。
- **同济途灵 "TiEV" 智能无人车研究团队** 上海
  团队成员 *2020.01 至今*
  - 受副教授赵君峤和高级工程师叶晨指导。
  - 对无人车的训练环境进行模拟, 研究并开发了基于 carla 模拟器和 GPU 加速的激光雷达模拟器，并取得了很好的效果。
  - 极大优化了激光雷达的仿真性能, 大幅提高 carla 模拟器能支持的客户端的数目和激光雷达的仿真速度。
- **科思创国际数据分析马拉松应用设计大赛 (Hackathon)** 上海
  参赛者 *2019.11*
  - 使用基于长短时记忆网络 (LSTM) 的算法来预测莱茵河水位。
  - 基于历年降水监测站数据和历年水位来预测莱茵河的水位, 与卡内基梅隆大学和亚琛工业大学竞技, 成绩排名第一赛道第三。
- **Bimulator 开发团队** 上海
  队长 *2019.10 - 2019.12*
  - 开发了基于物理引擎, 实时光线追踪和图形渲染管线的第一人称 3D 台球模拟器。
  - 使用 box2D 物理引擎来迷你台球碰撞的物理效果，实现了实时光线追踪, 使用光线追踪实现了反射和软阴影等视觉特效。

获奖情况

- **银牌:** ACM-ICPC 国际大学生程序设计竞赛亚洲区决赛 (The ACM-ICPC Asia-East Continent Final), 2018.12
- **金牌:** ACM-ICPC 中国大学生程序设计竞赛, 宁夏站 (The ACM-ICPC Chinese Collegiate Programming Contest), 2018.06
- **金奖:** CCF 大学生计算机系统与程序设计竞赛 决赛 (2019 CCF CCSP), 2019.10
- **第一赛道第三:** 科思创国际数据分析马拉松应用设计大赛, 2019.07
- **荣誉:** CCF 优秀大学生奖, 2020.09
- **荣誉:** 上海市优秀毕业生, 2021.04
- **省级三等奖:** 上海大学生数学建模竞赛, 2018.09 & 2019.09
- **校级二等奖:** 同济大学数学建模竞赛, 2018.05
- **校级二等奖:** 同济大学程序设计竞赛暨上海大学生邀请锦标赛, 2018.04
- **校级二等奖学金:** 同济大学优秀学生奖学金, 2018.12 & 2019.12 & 2020.12
- **校级三等奖:** 同济大学非物理专业物理竞赛,

语言和技能

- **语言能力:** 英语 (大学英语六级)
- **编程语言和框架:** C/C++, Python, Matlab, Glsl, VerilogHDL, Pytorch, TensorFlow
- **技能:** 熟悉机器学习和深度学习理论和编程实践, 模式识别和数据挖掘方法; 熟练使用算法和数据结构优化程序的时间和空间复杂度; 擅长数学; 熟悉计算机图形学, 并熟悉使用 Mordern OpenGL 编写程序; 熟练数据库查询操作; 熟悉多媒体技术。

Bi Xiaodong

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Education

- **College of Electronics and Information Engineering, Tongji University** Shanghai
  Major: B.S. in Computer Science *Sept. 2017 - Present*
  - **GPA:** 4.62/5.00, **GPA Ranking:** 10.1% (16/159), **Comprehensive Ranking:** 1.25% (2/159)
  - **Course:** Data Structures (A), Algorithm (A), Principles of Database (A), Operating Systems (B), Computer Architecture (A), Computer Graphics (A), Artificial Intelligence (A), Pattern Recognition (A), Data Mining (A), Machine Learning(A)
- **Math Experimental Class, School of Mathematical Sciences, Tongji University** Shanghai
  Major: B.S. in Computer Science Minor: B.S. in Mathematics *Sept. 2017 - Jan. 2019*
  - **GPA(1^{st} term):** 4.37/5.00, **GPA(2^{nd} term):**4.81/5.00, **GPA(3^{rd} term):**4.78/5.00, **Rank:** 6.7% (1/15)
  - **Course:** Mathematical Analysis (B/A), Advanced Algebra (A/A), Theory of Probability (A), Statistics (A), Numerical Analysis (B), Mathematical Modeling (A), Ordinary Differential Equation (A), Combinatorics (A), Complex analysis (A)

Project & Experience

- **Machine Learning Group, Microsoft Research Asia** Beijing
  Research Intern of Machine Learning *Jun. 2020 - Present*
  - Research the application of AI in quantitative investment, develop and maintain quant platform Qlib (4.9k Star).
- **ACM Programming Summer Training Team of Tongji University** Shanghai
  Captain and Organizer *Jun. 2019 - Sept. 2019*
  - Conducted online lectures and organized competitions to train and select members guided by A/Prof. Chen Ye.
  - Participated in ICPC competitions many times and got good results.
- **The 'TiEV' Research Group of Tongji Intelligent Electric Vehicle** Shanghai
  Developer and Researcher *Jan. 2020 - Present*
  - Guided by A/Prof. Junqiao Zhao. and A/Prof. Chen Ye.
  - Research lidar simulator based on carla and GPU acceleration, and have achieved excellent results.
  - Simulate the training environment of vehicles, optimize the lidar simulation frame rate by GPU acceleration.
- **Covestro International Data Science Hackathon** Shanghai
  Competitor *Nov. 2019*
  - Proposed an algorithm based on long short-term memory (LSTM) to predict the water level of the Rhine, achieved excellent results, and ranked 3^{rd} place in the first track.
- **Bimulator Development Team** Shanghai
  Team Leader *Oct. 2019 - Dec. 2019*
  - Developed a 3D billiard simulator using physics engine, ray tracing and graphics pipeline.
  - Implemented real-time ray tracing, and use ray tracing to achieve reflection and soft shadow effects

Awards

- **Silver Medal:** The ACM-ICPC Asia-East Continent Final, Dec. 2018
- **Gold Medal:** The ACM-ICPC Chinese Collegiate Programming Contest, NingXia Site, Jun. 2018
- **Gold Medal:** The CCF College Computer Systems & Programming Contest (2019 CCF CCSP), Oct. 2019
- 3^{rd} **Place in the First Track:** Covestro International Data Science Hackathon, July 2019
- **Honour:** CCF Elite Collegiate Student Award, Sept. 2020
- **Honour:** Outstanding Graduate in Shanghai, Apr. 2021
- 3^{rd} **Province-Level Prize:** Contemporary Undergraduate Mathematical Contest in Modeling, Sept. 2018/2019
- 2^{nd} **Prize:** Mathematical Modeling Contest of Tongji University, May. 2018
- 2^{nd} **Prize:** Tongji University Programming Competition,Shanghai University Invitational Tournament, Apr. 2018
- **Second-Class Scholarship:** Tongji University Outstanding Student Scholarship, Dec. 2018/2019/2020
- 3^{nd} **Prize** Physics Competition for non-Physics Major Students of Tongji University, June. 2018

Languages & Skills

- **Languages:** Mandarin(Native), English(CET6)
- **Programming Languages and Frameworks:** :C/C++, Python, Matlab, Glsl, VerilogHDL, Pytorch, TensorFlow
- **Skills:** Familiar with machine learning, deep learning, pattern recognition and data mining; Familiar with data structures and algorithms; Good at maths; Familiar with computer graphics and Modern OpenGL; Familiar with multimedia technology.