Hufei Duan

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| **Mobile**: +86 18272620793 | **Email**: duanhf20@mails.tsinghua.edu.cn | **IELTS**: 6.5 |
| Tsinghua Shenzhen International Graduate School, Tsinghua University, Shenzhen 518000, China | | |

**Education**

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| **Tsinghua University**, Beijing, China | **2020.09-2023.06 (Expected)** |
| Master in Electronic Information | GPA:3.78/4.0 (top 5%) |  |
| Supervisor:Prof. Yonghong He and Prof. Tian Guan |  |
| **Technical University of Munich**, Munich, Germany | **2020.08** |
| Exchange Student in Artificial Intelligence |  |
| **Zhengzhou University**, Zhengzhou, China | **2016.09-2020.06** |
| Bachelor in Biomedical Engineering | GPA: 3.71/4.0 (top 1%) |  |

**Previous Work Experience**

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| **The First Affiliated Hospital, Sun Yat-sen University**, Guangzhou, China | **2021.05-2022.06** |
| *AI Research Intern in Department of Pathology* |  |
| Supervisor:Prof. Anjia Han and Prof. Huijuan Shi |  |
| **Robot Perception Lab**, Zhengzhou, China | **2018.03~2018.09** |
| Supervisor:Prof. Xiaobo Mao and Academician D.H.Owens |  |

**Research Interest and Experience**

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| **Research Interest: Medical Image Analysis, Deep Learning** | |
| **An Annotation-Efficient Regional Segmentation of Breast Cancer Image** | **2021.12-Present** |

* Responsible for *experimental design, analysis of results and software development.*
* Proposed a universal label-efficient method in image segmentation. It achieved good results in three datasets.

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| **A Novel Transformer-based Model for Breast Cancer Classification** | **2022.02-Present** |

* Responsible for *code writing, experimental design, analysis of results and paper writing.*
* Used multi-domain features and mixed attention mechanism. It performed better than classic models.

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| **An AI-based High-Resolution Scoring System for Breast Cancer** | **2021.05-2021.10** |

* Responsible for data collection, tools development and performing experiments.
* Proposed a self-supervised and multi-scale model to solved a clinic issue. A computer-assisted software was made.

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| **An AI-based Traditional Chinese Medicine Pulse Analysis System** | **2019.12-2020.05** |

* As *Project Leader*. Responsible for *data acquisition, experimental design and code writing.*
* Win the third prize (6/70) in the competition hosted by Tsinghua University and Technical University of Munich.

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| **Human Lower Extremity Motion Assessment System** | **2018.09-2019.05** |

* Responsible for *signal processing, GUI design and patent writing.*
* Win the Second prize (provincial level) in the National Student Challenge Cup Competition.

**Publications**

**Papers**

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| **Hufei Duan**, Hui Yan, Tian Guan, et al. Fourier ViT: A Multi-scale Vision Transformer with Fourier Transform for Histopathological Image Classification. In *CACRE 2022*. |
| Yiqing Liu, **Hufei Duan**, et al. Using Sparse Patches Annotation for Tumor Segmentation in Histopathological Images. In *Sensors*. (Minor revision) |
| Yiqing Liu, **Hufei Duan**, Yuxin Ni, et al. A Domain Adaptive and Label-efficient Deep Learning Method for Ki-67 Scoring in Infiltrative Breast Ductal Carcinoma Cells. In *ITNLP 2021*. (Under review) |
| **Hufei Duan**, Yiqing Liu, Shuting Liu, et al. An AI-based High-Resolution Scoring System for Breast Cancer. in *Computer methods and programs* (IF:5.4). (Under Review) |

**10 Chinese Patents**

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| AI Traditional Chinese Medicine Pulse Diagnosis System | *the First Author* | No. 9054049 |
| A Multi-functional Smart Insole | *the Second Author* (first author in students) | No. CN109350052A |
| A Wearable Tai Chi Evaluation System | *the Second Author* (first author in students) | No. CN111957024A |
| Human Jumping Evaluation and Training System | *the Third Author* | No. CN109260647A |

**Honors and Awards**

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| [International level] TIE2-Deep Tech Accelerator Program | 3rd Prize Winner | **2021.11** |
| [International level] Innovation & Entrepreneurship Program Excellent Completion | **2021.03** |
| [National level] National Encouragement Scholarships (top 2%) | **2016-2019** |
| [National level] National innovation training program Excellent Completion | **2018.04** |
| [Provincial level] The 6th Tsinghua Alumni Tri-Creation Contest | Outstanding Award | **2021.03** |
| [Provincial level] Excellent Graduate of Henan Province | **2020.06** |
| [Provincial level] Excellent Student Leader of Zhengzhou City | **2016.03** |
| [School level] Outstanding Officer of Tsinghua University Graduate Student Association | **2021.01** |
| [School level] First Class Scholarship in Tsinghua University (top 5%) | **2021.09** |
| [School level] Lin Feng Scholarship (top 1%) | **2018.12** |

**Relevant Courses**

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| Medical Image Processing | Deep Learning | Machine Learning for big data |
| An Introduction to Medicine | Medical Device Practice | Medical Physics and Therapy |

**Extracurricular Activities**

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| **Tsinghua & Munich Technology Innovation Competition** | Team Leader | **2021.11** |

* Our team completed and present an AI Assisted Diagnosis software, and make many foreign friends.

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| **Tsinghua Alumni Tri-Creation Contest |** Technical Leader | **2021.03** |

* Our team entered the finals of Beijing Tianjin Hebei and North America zone.

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| **School Table Tennis and Tai Chi Exercise** | Organizer | **2019.10** |

* Organizing physical exercise activities to help keep fit, which is well welcomed among students.

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| **Reception of foreign experts and scholars |** Volunteer Leader | **2017.05-2018.09** |

* Accompanying Prof. Owens, the academician of the Royal Academy, to visit the Terracotta Warriors.

**Others**

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| **Leadership |** Student Union Committee Member | **2020-2021** |
| **Leadership |** Class Monitor | **2016-2020** |

* Organizing large activities efficiently. Leading the class to win the honorary title of provincial outstanding class.
* Obtaining the praise of the dean and teachers. Winning the unanimous praise of all students in our class.

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| **Skills** |

* Python, Matlab, Visual C#, C++, Java and Linux Operation.

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| **Hobbies** |

* Enjoy Swimming, Calligraphy, Table Tennis, Chinese Kongfu, and Stage Performances.