Mengdi Jia

17325597275 | jmd_chn@163.com | 28 years old

Education

Anhui Agricultural University **2020.09 - 2023.06**

Master of Agricultural Engineering , Faculty of Engineering *GPA：3.62 / 4.0*

Hebei Agricultural University **2014.09 - 2018.06**

Bachelor of Mechanical Design, Manufacturing &Automation, Modern Institute of Science and Technology *GPA：3.52 / 4.0(TOP 5%)*

- **Honor:**First class scholarship（2014-2016）, The First prize in the World Robot Olympiad, The Third prize in National College Students Contest of Computer Ability, Third prize in Hebei Province 3D Drawing and Composition Ability Competition, The third prize in the "Internet +" Innovation and Entrepreneurship Competition , Third prize in the China Directional Open Competition
- **Societies: Minister of the Association of Science and Technology**; Held the 500-person Hebei Agricultural University Robot Competition after communication and fund preparation, and won the best technology award in the competition；**Founder of Makerspace Society**, responsible for the research and development of cooperation projects

Work experience

Beijing Transeasy Medical Technology Co., Ltd.

Assistant R&D Engineer **2024.05 -2024.07**

- Design and Development: Independently designed an innovative product based on clinical needs research. Created a mechanism with pure mechanical transmission (cams, gears, and hinges) for single and continuous suturing with a 5mm endoscope and secure patching.
- Documentation: Developed and maintained essential documents, including user manuals, product catalogs, technical specifications, material standards, and process guides.
- Design Verification: Worked with process and quality teams on biological testing and shelf-life validation.
- Component Testing and Optimization: Conducted mechanical performance tests and verified component dimensions using universal testing machines and image analyzers. Optimized component selection based on testing and assembly results.
- Tooling and Label Design: Designed assembly tooling using Creo and product labels with Adobe Illustrator. Coordinated with suppliers for printing and machining.

Beijing Precision Medical Technology Co., Ltd **2023.07 – 2024.04**

R&D Assistant

- Test work: robot arm zero-position correction, recordde robot end-effector motion paths using PolyWorks.
- Designed and Assembled the electrical cabinet which work in the MRI environment, connected the robotic arm for commissioning.
- Designed and processed a set of robotic pressure sensor in-plant inspection tooling, including linear motion vice, lever, sliding cam vice, spring linkage, data writing contact connection.
- Designed a puncture needle holding mechanism and a quick release mechanism for connecting the puncture mechanism to the robotic arm.
- Maintained robot BOMs, exported test logs, designed and wrote SOP templates, authored 5 patent submissions and received patent grants.

Laboratory of Biophotonics, Department of Electronics, Tsinghua University & Tianjin Langyuan Technology Co., Ltd **2019.12 - 2020.09**

Intern

- Designed three sets of biomedical photoacoustic imaging systems, including mechanical structure design and system control design.

Solidreamer **2014.08 - 2017.06**

Chief Technology Officer

- Founded the Maker Space Society in Hebei Agricultural University to realize school-enterprise cooperation by undertaking 3D printing services from off-campus companies
- Organized members to participate in the teaching activities based on an original business model to make stable profits
- Research and development of educational 3D printers, 3D printing pens,youth robot education kits and STEAM curriculum plan
- Operated the WeChat public account through weekly Tweets, made decisions on self-media function positioning

Baoding Xiangbo Model Technology Co., Ltd. **2016.09 - 2016.12**

Teacher

- Responsible for teaching three classes of about 20 students about Lego robotics lessons
- Assisted in holding the Hebei Province FLL Robot Promotion Competition, and received more than 20 groups of participants

Baoding Zhiyuan Power Co., Ltd **2015.07 - 2015.09**

Electrical instrument enclosure designer

- Independently designed three sets of electrical instrument housings by SolidWorks into production

Project experience

Experimental exploration of crack propagation principle of pecan under heating **2021.11 – 2023.06**

- Objective: Improve the shelling efficiency of pecans and explore the principle of crack propagation of woody husks
- Method: A real-time weight temperature monitoring system based on labview, a deep learning crack target detection algorithm based on YOLOv8, a water content prediction model based on NIR spectroscopy and BP neural network

Single-degree-of-freedom telescopic arm vibration suppression implementation **2018.12 - 2019.04**

- Objective: Solve the phenomenon of trembling when extending the single-degree-of-freedom telescopic motion robot arm
- Method: Using C++, control servo motors and implement motion control algorithms from MATLAB on multi-axis motion control board

Utility Model Patent-----Seed Depth Detection SystemBased On Magnetic Fields **2017.12 - 2018.03**

- Objective: Accurately measure seed depth and design a cotton seed depth detection system based on magnetic fields
- Method: Using the magnetic ball, vertical and inclined, to simulate the seed position. This system can quickly find the seed coordinates within 40mm of the soil cover depth within 300*300mm², and the error does not exceed 2.5mm

Utility Model Patent ----Orchard Machinery of Hybrid Peach **2017.06 - 2017.08**

- Objective: This shearing mechanism was designed to cut the calyx, petals and their stamens at one time to solve the high failure rate caused by the tweezer operation problem during peach blossom sexual crossbreeding
- Method: There is a round hole in the middle, which retains the position of the pistil, so that it is protected from damage, and the peach blossom and similar flower buds are de-male

Utility Model Patent -----An extrusion device for additive manufacturing of flexible materials from hard materials **2017.01 - 2017.06**

- Objective: To solve the problem that the printing material is flexible and simple, easy to wrap and wind.
- Method: The fused deposition method : Squeezed plasticizer by the feeder from the other end of the Y-shaped path when the hard wire was printed normally by one end of the Y-shaped path, mixed the heating block 1 inner filament with plasticizer and melted from nozzle 2 to realize the printing of different flexible materials

Skills/Interests/Certificates

- **Language Skills:** English (CET-6) IELTS (5.5) Japanese (oral）
- **IT skills:** Solidworks & OCAD ((proficient), MATLAB, PLC ,ABAQUS, Labview , Creo, Mastercam, C++, Keil (basic)
- **Hobbies:** Orienteering HEMA,Boxing,Photography
- **Certifications:** Certificate of Mechanical 3D-CAD Senior Applications Engineer,Certificate of CNC vocational qualification
- **Activities**:School Robot Competition (Best Technology Award), Zhixing Wushu Association Annual Competition (2nd Prize), University Student Forum (poster editor）

贾梦迪

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教育背景

安徽农业大学 **2020.09 - 2023.06**
农业工程 硕士 工学院 *GPA：3.62 / 4.0*
河北农业大学 **2014.09 - 2018.06**
机械设计制造及其自动化 本科 现代科技学院 *GPA：3.52 / 4.0（专业前三）*

- **荣誉：**校一等奖学金（2014-2016）、WRO 世界奥林匹克机器人世界锦标赛全国赛一等奖、全国大学生计算机能力素养竞赛三等奖、河北省三维制图与构型能力竞赛三等奖、“互联网+”创新创业竞赛省级三等奖、中国定向公开赛三等奖
- **社团：科学技术协会部长**，通过校企沟通、资金筹备，举办了 500 人规模的河北农业大学机器人大赛，获得比赛最佳技术奖；
  创客空间社团创始人，负责校企合作项目的研发

工作经历

北京天助畅运医疗技术股份有限公司 **2024.05 -2024.07**
助理研发工程师

- 设计开发策划：通过综合调研临床需求，独立设计一套创新原研产品，通过纯机械传动，包括凸轮、齿轮、铰接等运动副，可原理上实现 5mm 管径腔镜下单发缝合和连续缝合，固定补片。
- 辅助设计历史文档输出：使用说明书、产品目录、技术要求、原料标准、法规清单、工艺指导书、图纸维护等。
- 参与设计开发验证：与工艺及体系部门配合，参与生物学送检、货架有效期验证。
- 零部件选型测试优化：使用万能拉压实验机测试力学性能，使用影像仪验收零件尺寸，根据测试及组装结果选型优化。
- 工装及标识设计：使用 Creo，设计产品组装所需工装；使用 AI，设计产品器身标识；对接供应商，外发丝印及机加工。

北京精准医械科技有限公司 **2023.07 -2024.04**
研发助理

- 测试工作：机械臂零位矫正，使用 PolyWorks 记录机器人末端运动路径。
- 设计组装调试：核磁环境下电控柜器件排布、走线设计、EMC 设计、底板及操作面板结构件设计加工，电控柜整体组装调试。
- 工装设计：设计加工一套机器人压力传感器入厂检工装，包括直线运动副、杠杆、滑动凸轮副、弹簧连杆、数据烧写触点连接设计。
- 产品设计：使用 Solidworks，设计神经外科穿刺针夹持机构、穿刺机构与机械臂连接快装机构。
- 文档输出：维护机器人 BOM，输出测试记录，设计 SOP 模版，撰写 5 项专利交底书且获得专利授权。

清华大学电子系生物光声成像实验室+天津朗原科技有限公司+中国东南大数据产业园 **2019.12 - 2020.09**
科研助理 实习生

- 使用 SolidWorks 参与设计加工生物医学光声成像系统，包括 DAQ 钣金外壳，导光臂扩展配件，乳腺手持线阵光声探头外壳等

Solidreamer 股份有限公司 **2014.08 - 2017.06**
首席技术官

- 创办河北农业大学创客空间社团，通过承接校外公司 3D 打印服务实现校企合作
- 组织社员参与创业公司 Solidreamer 教学活动，独创以大学社团人员为主体的商业模式并稳定盈利
- 研发教育型 3D 打印机、3D 打印笔、青少年机器人教育套件以及 STEAM 课程方案，并投入教学实践，收获 80 份反馈提升建议

保定翔博模型科技有限公司 **2016.09 - 2016.12**
教师

- 负责三个班级约 20 个学生的一学期小学生乐高机器人教学工作，协助举办河北省 FLL 机器人晋级赛，接待 20 多组选手完成比赛

保定致远电力有限公司 **2015.07 - 2015.09**
电气仪表外壳设计师

- 通过使用 SolidWorks，独立设计三套电气仪表外壳并投入生产

项目经历

加热状态下山核桃裂纹扩展原理实验探究 **2021.11 – 2023.06**

- 目的：为提高山核桃破壳效率，探究木质果壳裂纹扩展原理
- 方法：搭建基于 Labview 的重量温度实时监控系统，基于 Python 的 YOLOv8 深度学习裂纹目标检测算法，基于近红外光谱和 BP 神经网络的含水率预测模型

单自由度伸缩臂振动抑制实现 **2018.12 - 2019.04**

- 目的：解决单自由度伸缩机械臂伸出时震颤的现象
- 方法：使用 C++，控制伺服电机，将 MATLAB 上的自抗扰控制算法在固高多轴运动控制板上实现运动控制

基于磁场的种深探测系统 **2017.12 - 2018.03**

- 成果：实用新型专利一项
- 结论：实现无接触测量埋在土壤里种子的三维坐标
- 方法：将磁球和种子埋在同一处，使用 Mach3 数控板和 Arduino 交互控制 2 轴伺服机械臂，扫描土壤上空磁场矩阵，使用逆推磁场强度分布的算法，使用 MATLAB 求得磁球位置，本系统可快速求得 300*300mm²范围内覆土深度 40mm 以内种子坐标，误差小于 2.5mm

实用新型专利《一种桃花雄蕊剪切机构》 **2017.06 - 2017.08**

- 结论：实现了桃花及类似花苞快速去雄，在有性杂交中起重要作用

实用新型专利《一种由硬质材料增材制造柔性材料的挤出装置》 **2017.01 - 2017.06**

- 结论：该装置采用熔融沉积法，能够将硬质线材，打印为不同柔性的材料

技能/兴趣/证书

- **语言技能：**英语（CET-6）雅思（5.5）日语（日常口语）
- **IT 技能：**Solidworks（熟练），Creo（基础），CAXA（基础），MATLAB（基础），AI（基础），PS（基础），PLC（基础），Beckhoff（入门），ABAQUS（基础），Labview（基础），Mastercam（基础），C++（基础），Keil（基础），OCAD（熟练）
- **兴趣爱好：**定向越野（校队队长），兵击，搏击，乐器，摄影
- **综合活动：**校机器人大赛（最佳技术奖），知行武术协会年度竞赛（二等奖），大学生论坛（海报编辑）
- **专业证书：**三维 CAD 应用工程师证书，加工中心职业资格证书（高级），中国航空运动协会会员证，保定市机器人运动协会会员证，计算机二级（C++），保定市田径二级裁判员证，定向越野国家二级裁判员证