

Ranxi LIU

Robotics Researcher

Foyer 3, Unit 36/460 Jones St, Ultimo NSW 2007

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Ranxi.Liu-1@uts.edu.au

CV

Bachelor Education

2015-2020 Harbin Institute of Technology, WEIHAI Weihai, Shandong Province

Institute of Information Science and Engineering

Courses: Measurement and Control Technology and Instruments

- Develop my own philosophy about the professionalism as well as value criteria of electronic technology.

Extracurricular Activities

2015-2021 Prepare for the Nationwide Master's Program Unified Admissions Examination in China

Towards Electronic Engineering

- Improve the academic English including both academic reading and writing.

Master Education

2022-2023 University of Technology Sydney Ultimo, Sydney, New South Wales

Faculty of Engineering and Information Technology

Course: Master of Engineering - Telecommunications and Electronics

- Achieve the growth as a qualified robotics engineer and think about the ways that I can make contribution to the industry and society in the future.
- Develop my own philosophy about the professionalism as well as value criteria of robotics technology.

Employment Experience

January to April, 2022 Chendu, Sichuan Province

Sichuan Shengtuo Testing Technology Co., Ltd

- Serve as a development assistant in the hardware development department.

March to December, 2024 University of Technology Sydney **Ultimo, Sydney, New South Wales**

Robotic Institute, Faculty of Engineering and Information Technology

- Work as a visiting scholar in the Engineering Projects Lab of UTS Robotic Institute.

Research Experience

2022-2023 University of Technology Sydney **Ultimo, Sydney, New South Wales**

Robotic Institute, Faculty of Engineering and Information Technology

- Be invited to the Engineering Projects Lab of UTS Robotic Institute in November 2022 and conduct my capstone research.
- Conduct research related to robot-assisted surgery ‘Simultaneous Localization of Bronchoscopic Probe and Mapping of Deformable Endobronchial Environment’.

March to December, 2024 University of Technology Sydney **Ultimo, Sydney, New South Wales**

Robotic Institute, Faculty of Engineering and Information Technology

- Help PhD researchers with 3D modeling using Solidworks, UR10 control in ROS, data collection and processing with designed optimization algorithms in terms of the hip-replacement surgery.
- Collaborate with PhD students on the development of a Multi-robot Extended Kalman Filter (EKF) SLAM algorithm.
- Study with PhD researchers regarding the multi-segment continuum robots, from establishing system models to validating the optimal kinematic configuration.

Skills (out of 10 points)

Matlab(8) Python(6) ROS (5) Visual Components(5) C++(4)

Language (out of 10 points)

Chinese(9) English(7)

Scientific publications

- **'First Estimate Jacobian EKF for Multi-robot SLAM'** on 2024 Australasian Conference on Robotics and Automation (ACRA 2024).

Transcript

Bachelor degree

EduGlobal China

Original Sighted

Signature: *Joana*

Date: 24 / 04 / 2022

HARBIN INSTITUTE OF TECHNOLOGY AT WEIHAI STUDENT ACADEMIC RECORD

Page 1 of 1

Name	Liu Ranshi	Date of Birth	1997/08	Date of Admission	2015/09	Department	School of Information Science and Engineering
Sex	Male	Student number	150220114	Schooling	4years	Date of Graduation	2020/07
Specialty	Measurement and Control Technology and Instrument						

Course	Credits	Periods	Record	Exam Date	Course	Credits	Periods	Record	Exam Date
Military Training and Military Theory	3	0.3	80	2015-12	Measurement and Control Technology & Instrument Professional Introduction Course	1	20	75	2015-12
Basic Mechanical Drawing II	4	64	64	2015-12	Ideological and Moral Cultivation and Basic Law Education	2	34	81	2015-12
College English	1.5	40	62	2015-12	Physical Education	1	26	88	2015-12
Experiment of Circuit B	1	18	86	2016-07	College English	1.5	40	71	2016-07
Physical Education	1	26	78	2016-07	Introduction to Art	1	20	60	2016-07
Career Planning and Employment Guidance	1	16	92	2016-07	Food Nutrition	1	24	62	2016-07
Mathematical Analysis for Engineering	5	90	64	2016-07	College Physics A	4.5	72	65	2016-08
Physical Education	0.5	15	78	2016-12	Experiment of College Physics I	2	30	67	2017-01
Engineering Training (non-mechanical)	2	0.2	82	2017-01	Outline of Modern Chinese History	2	32	64	2017-01
Course Design of Virtual Instrument Software Design	1	0.1	65	2017-06	Course Design of Electronic Technology	1	0.1	65	2017-06
Experiments of Digital Electronic Technology	1.5	24	94	2017-06	Experiment of College Physics I	2	30	65	2017-06
College English Elective Course	1.5	40	62	2017-06	Physical Education	0.5	15	80	2017-06
Appreciation of Psychological Films	1	16	100	2017-07	Thought, Science and Modernization	2	32	64	2017-07
Humanistic Interpretation of Tang Poetry and Song Juechi Verse	2	40	87	2017-09	The Human Body and Costume Art	2	40	70	2017-09
Basic Course Design of Mechanics	2	0.2	85	2018-01	Mechanical Basic Experiment(Fundamentals of Mechanics)	0.5	12	86	2018-01
Basic Principles of Marxism	3	48	61	2018-01	Introduction to MAO Zedong Thought and System of Theories of Socialism with Chinese Characteristics	4	60	60	2018-01
Error Theory and Data Processing	2	36	60	2018-01	Basic Course Design of Embedded Technology	2	0.2	65	2018-01
Sensor Technology and Application	2.5	42	64	2018-04	Investment and Financial Analysis Technology	1	16	84	2018-05
Practice on Electronic Technology	2	0.2	76	2018-06	Photoelectric Detecting Technique	2	32	70	2018-06
Auto-measurement Technique	2	32	66	2018-06	Measuring Instrument Design	2	30	65	2018-06
Precision Instrument Design	2	36	62	2018-06	Process Control System	2.5	40	60	2018-06
Course Design of Measuring Instrument Design	1	0.1	75	2018-06	Process Control Course Design	1	0.1	65	2018-06
Circuit Measurement and Control & Drive Technology	2	30	60	2018-08	Digital Signal Processing	3.5	52	60	2018-12
Automatic Control Theory B	4	64	60	2019-01	Computer Control	2	32	74	2019-01
Production Practice	3	0.3	65	2019-01	Computer Control Course Design	1	0.1	65	2019-01
Intelligent Control	1.5	24	60	2019-02	Fundamentals of Engineering Software	2	32	63	2019-02
Fundamentals of Analogy Electron Technique A	4	64	61	2019-02	Complex Function and Integral Transform	2.5	42	64	2019-02
Electronic Measurement Principle	2	32	64	2019-06	Graduation Design	15	1.5	65	2019-06
Algebra and Geometry	3.5	60	62	2019-07	Mathematical Analysis for Engineering	5	90	61	2019-07
Engineering Optics	4.5	72	60	2019-08	Fundamentals of Mechanics	3	48	60	2019-08
Single Chip Microcomputer Theory and Interface Technology	3	48	65	2020-01	C Language Programming	3	48	70	2020-01
College Physics A(2)	4	64	69	2020-01	Probability and Mathematical Statistics	5.5	88	63	2020-01
Communication Electronic Circuits I	4	64	66	2020-01	Experiments of Analogy Electron Technique A	1	24	66	2020-01
An Introduction to the English-speaking Countries	1.5	32	92	2020-05	Signals and Systems	4	64	80	2020-06
Fundamentals of Digital Electronic Technology	3.5	56	88	2020-06	Circuit B	4	64	61	2020-06
Virtual Instrument Software Design	2	32	65	2020-06					
Total Credits in All Academic Years	175.0	Academic Degree		GPA	70.91	Academic Affairs Office of Harbin Institute of Technology at Weihai (S&U)			

Note: The results of Required Courses and Controlled Elective Courses are given in hundred-mark system (0-100);

Registrar: Hu Guizhen

Date: January 07, 2022

哈尔滨工业大学（威海）学生历年学习成绩表

姓名	刘冉哲	学号	150220114	性别	男	学制	4年				
院系名	信息科学与工程学院			专业名	测控技术与仪器						
班级	1502201			入学日期	2015年09月09日						
获得第一学位	工学学士			毕业日期	2020年07月26日						
获得第二学位				第二学位专业							
课程名	学分	学时	成绩	属性	考试时间	课程名	学分	学时	成绩	属性	考试时间
军训及军事理论	3	0.3	80	必修	2015-12	测控技术与仪器专业导论课	1	20	75	必修	2015-12
机械制图基础I	4	64	64	必修	2015-12	思想道德修养与法律基础	2	34	81	必修	2015-12
大学英语	1.5	40	62	必修	2015-12	体育	1	26	88	必修	2015-12
电路实验B	1	18	86	必修	2016-07	大学英语	1.5	40	71	必修	2016-07
体育	1	26	78	必修	2016-07	艺术概论	1	20	60	任选	2016-07
职业生涯规划及就业指导课	1	16	92	任选	2016-07	食品营养	1	24	62	任选	2016-07
工科数学分析	5	90	64	必修	2016-07	大学物理A	4.5	72	65	必修	2016-08
体育	0.5	15	78	必修	2016-12	大学物理实验I	2	30	67	必修	2017-01
工程训练(非机械类)	2	0.2	82	必修	2017-01	中国近现代史纲要	2	32	64	必修	2017-01
虚拟仪器软件设计课程	1	0.1	65	必修	2017-06	电子技术课程	1	0.1	65	必修	2017-06
数字电子技术实验	1.5	24	94	必修	2017-06	大学物理实验I	2	30	65	必修	2017-06
大学英语限选	1.5	40	62	必修	2017-06	体育	0.5	15	80	必修	2017-06
心理电影赏析	1	16	100	任选	2017-07	思想、科学与现代化	2	32	64	任选	2017-07
唐诗宋词人文解读	2	40	87	任选	2017-09	人体与服装艺术	2	40	70	任选	2017-09
机械学基础课程	2	0.2	85	必修	2018-01	机械基础实验(机械学基础)	0.5	12	86	必修	2018-01
马克思主义基本原理	3	48	61	必修	2018-01	毛泽东思想和中国特色社会主义	4	60	60	必修	2018-01
误差理论与数据处理	2	36	60	必修	2018-01	嵌入式技术基础课程	2	0.2	65	必修	2018-01
传感技术及应用	2.5	42	64	必修	2018-04	投资理财分析技术	1	16	84	任选	2018-05
电子工艺实习	2	0.2	76	必修	2018-06	光电检测技术	2	32	70	必修	2018-06
自动检测技术	2	32	66	必修	2018-06	测量仪器设计	2	30	65	必修	2018-06
精密仪器设计	2	36	62	必修	2018-06	过程控制系统	2.5	40	60	必修	2018-06
测量仪器设计课程	1	0.1	75	必修	2018-06	过程控制课程	1	0.1	65	必修	2018-06
测控电路与驱动技术	2	30	60	必修	2018-08	数字信号处理	3.5	52	60	必修	2018-12
自动控制原理B	4	64	60	必修	2019-01	计算机控制	2	32	74	必修	2019-01
生产实习	3	0.3	65	必修	2019-01	计算机控制课程	1	0.1	65	必修	2019-01
智能控制	1.5	24	60	必修	2019-02	工程软件基础	2	32	63	必修	2019-02
模拟电子技术基础A	4	64	61	必修	2019-02	复变函数与积分变换	2.5	42	64	必修	2019-02
电子测量原理	2	32	64	必修	2019-06	毕业设计	15	1.5	65	必修	2019-06
代数与几何	3.5	60	62	必修	2019-07	工科数学分析	5	90	61	必修	2019-07
工程光学	4.5	72	60	必修	2019-08	机械学基础	3	48	60	必修	2019-08
单片机原理及接口技术	3	48	65	必修	2020-01	C语言程序设计	3	48	70	必修	2020-01
大学物理A(2)	4	64	69	必修	2020-01	概率论与数理统计	5.5	88	63	必修	2020-01
通信电子线路I	4	64	66	必修	2020-01	模拟电子技术实验A	1	24	66	必修	

GPA 计算方法说明

我校自 2020 年 3 月起,为我校区学生提供 GPA (Grade Point Average) 排名证明及等级制成绩单。具体是:

1. 本科生课程考核成绩以百分制评分和记载。学生课程考核成绩 60 分以上 (含 60 分) 的为合格,取得该课程学分。
2. 百分制成绩分数与成绩等级、绩点的换算关系如下表所示:

成绩等级	A	A-	B+	B	B-	C+	C	C-	D	D-	F
绩点	4.0	3.7	3.3	3.0	2.7	2.3	2.0	1.7	1.3	1.0	0
成绩分数	[90,100]	[85,90)	[82,85)	[78,82)	[75,78)	[71,75)	[66,71)	[62,66)	[60,62)	补考、 重修合格	[0,60)

3. 与成绩等级、绩点对应的学分绩点的计算办法是:

一门课程的学分绩点=绩点×课程学分数;

学期或学年的平均学分绩点(GPA, Grade Point Average)的计算办法是:

$$GPA = \frac{\sum \text{考试课程学分绩点}}{\sum \text{考试课程学分数}}$$

4. 学生可选择仅将考核方式为“考试”的课程纳入 GPA 计算并依此进行排名,也可选择将已修得学分的专修专业的全部课程纳入 GPA 计算并依此进行排名,两种计算方式只可选择一种。

GPA Calculation Method Description

Since March 1st, 2020, Harbin Institute of Technology, Weihai, has provided GPA (Grade Point Average) ranking certificate and graded transcripts for students. The following is a detailed description:

1. Grades for undergraduate courses are recorded in percentage scale from 0 to 100. The lowest passing grade is 60 (including 60). Students whose grades are higher than 60 (including 60) can obtain the credits for the course.
2. The relation between grades in percentage system, grade levels, and grade points is shown in the following table.

Grade Level	A	A-	B+	B	B-	C+	C	C-	D	D-	F
Grade Point	4.0	3.7	3.3	3.0	2.7	2.3	2.0	1.7	1.3	1.0	0
Course Score	[90,100]	[85,90)	[82,85)	[78,82)	[75,78)	[71,75)	[66,71)	[62,66)	[60,62)	Passing in make-up exam/retaking course	[0,60)

3. The calculation method of course grade point corresponding to grade level and grade point is:

$$\text{course grade point} = \text{grade point} \times \text{course credit}$$

Grade Point Average (GPA) of a semester or an academic year is calculated by the following formula:

$$GPA = \frac{\sum \text{Grade point of Examination Course}}{\sum \text{Credits of Examination Course}}$$

4. Students can choose to either use major GPA calculations including only grades of examination courses and rank them accordingly, or use overall GPA calculations including grades of all taken courses and rank them accordingly. Only one of the two choices can be allowed.

Academic Affairs Office
Harbin Institute of Technology, Weihai
March 1, 2020



EduGlobal China

Original Sighted

Signature: *Joana*

Date: 24 / 04 / 2022

Transcript

Master degree



4. GRADUATE'S ACADEMIC ACHIEVEMENTS

Course Details:

Master of Engineering

Conferred on 14 February 2024

Major in Telecommunications and Electronics

		Credit Points	Mark	Grade
2022	Spring Session			
42890	4G/5G Mobile Technologies	6	78	Distinction
49329	Control of Mechatronic Systems	6	81	Distinction
42908	Engineering Project Preparation	6	66	Credit
42057	Introduction to Space Communications and Sensing	6	83	Distinction
2023	Autumn Session			
49202	Communication Protocols	6	71	Credit
49001	Judgment and Decision Making	6	72	Credit
32118	Wireless Communications	6	76	Distinction
49227	Wireless Sensor Networks	6	54	Pass
2023	Spring Session			
49274	Advanced Robotics	6	82	Distinction
42003	Engineering Graduate Project	6	80	Distinction
49309	Quality Planning and Analysis	6	63	Pass
49004	Systems Engineering for Managers	6	51	Pass

GPA 5.25

WAM 71.42

Special Achievements, recognition and prizes

Successful completion of 'Consent Matters' online training module

5. DESCRIPTION OF THE AUSTRALIAN HIGHER EDUCATION SYSTEM

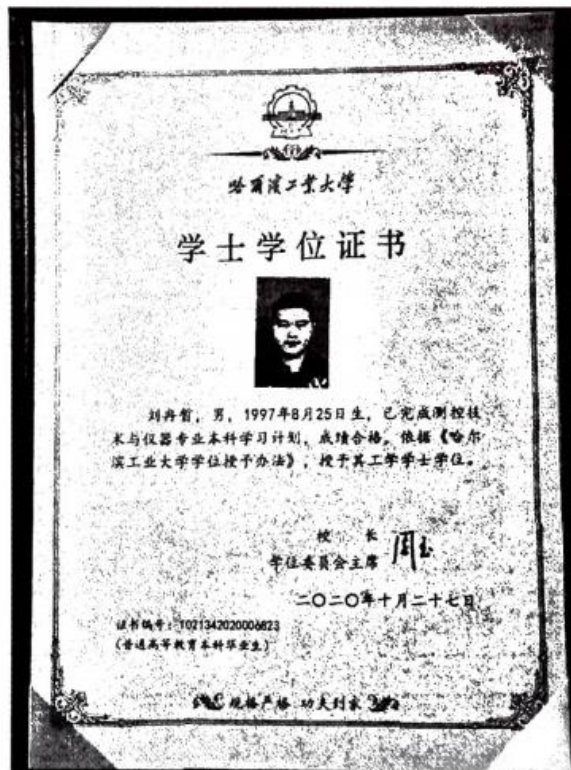
Introduction

The Australian higher education system consists of self-governing public and private universities and higher education institutions that award higher education qualifications.

Certificate

Bachelor degree





CERTIFICATE

FOR BACHELOR'S DEGREE

Certificate No. 1021342020006823

Liu Ranxi, male, born in August 1997, entering the major of Measurement and Control Technology and Instrument in the school of Information Science and Engineering at HIT in September 2015, has finished all the prescribed four-year subjects and passed the examinations and qualified for graduation in July 2020, According to the Regulations of Academic Degree Conferment of the People's Republic of China, he is hereby awarded the Bachelor's Degree of Engineering.

Zhou Yu

Chairman of Academic Degree Conferment Committee

October 27, 2020



EduGlobal China

Original Sighted

Signature: Joanna

Date: 24 / 04 / 2022

Certificate

Master degree



On the recommendation of the Academic Board and
by the authority of the University Council

Ranxi Liu

has today been admitted to the degree of

**Master of Engineering
in Telecommunications and Electronics**

Catherine Livingston

Chancellor

[Signature]

Vice-Chancellor
and President



329202

The Seal of the University is affixed this fourteenth day of February 2024

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