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XINHE ZHANG

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Requested by:

XINHE ZHANG 5765 CENTRE AVE APT 534 PITTSBURGH, PA 15206-5711

E-Mail: xinhe.zhang.home@gmail.com



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Student Name: Xinhe Zhang Birth Date/Month: 20-May

Date Awarded Degree Awarded

May 20, 2018 Bachelor of Science in Electrical and Computer Engineering with University Honors

- Carnegie Institute of Technology Research Honors

	В	eginning of Undergraduate Rec	cord								
ADVA	NCED PL	ACEMENT CREDIT				Fall 20	15				
DPT	CRS#	COURSE TITLE	UNITS	FINAL GRADE		DPT	CRS#	COURSE TITLE	UNITS	FINAL GRADE	QUALITY POINTS
CMY ECO	09105 73100	INTRO MOD CHEMSTRY I PRINC OF ECONOMICS	10.0 9.0	AD AD		MLG CS	10601 15150	MACHINE LEARNING PRIN FNCTIONL PRGMMG	12.0 10.0	W W B	0.0 0.0
	тот	TAL AP / TRANSFER CREDIT	19.0			CS MSC STA	15539 21259 36217	IND STUDY CS PEDGOGY CALCULUS IN 3-D PROB THEO RNDM PROC	6.0 9.0 9.0	W W	18.0 0.0 0.0
Fall 20	114				Dean's List	DRA	54187	INTRO TO PLAYWRITING UNITS	9.0 UNITS	A FINAL	36.0 TOTAL
DPT	CRS#	COURSE TITLE	UNITS	FINAL GRADE	QUALITY POINTS	Semes Cumula		PASSED 15.0 181.5	FACTORED 15.0 155.0	QPA <b>3.60</b> <b>3.88</b>	POINTS 54.0 602.0
CS ECE MSC ENG CMU	15112 18100 21120 76100 99101	FNDMTLS OF PGMG & CS INTRO ELEC COMP ENG DIFFERENTIAL INT CAL READ WRITE ACAD CNTX CMPTNG CARNEGIE MELL	12.0 12.0 10.0 9.0 3.0	A A A P	48.0 48.0 40.0 36.0 0.0	<b>Spring</b> DPT		COURSE TITLE	UNITS	FINAL	QUALITY POINTS
Semest Cumula	ter	UNITS PASSED 46.0 65.0	UNITS FACTORED 43.0 43.0	FINAL QPA <b>4.00</b> <b>4.00</b>	TOTAL POINTS 172.0 172.0	CS ECE ECE	CRS # 15150 18202 18213	COURSE TITLE  PRIN FNCTIONL PRGMMG  MATH FNDTN ELEC ENGR INTR CMPTR SYSTEMS	10.0 12.0 12.0	GRADE A B A	40.0 36.0 48.0
Spring		65.0	43.0	4.00	Dean's List	ECE CIT PSY	18290 39210 85251	SIGNALS & SYSTEMS EXPERINTIAL LEARNG I PERSONALITY	12.0 0.0 9.0	A P B	48.0 0.0 27.0
DPT	CRS#	COURSE TITLE	UNITS	FINAL GRADE	QUALITY POINTS	Semes	ter	UNITS PASSED 55.0	UNITS FACTORED <b>55.0</b>	FINAL QPA <b>3.62</b>	TOTAL POINTS 199.0
CS MSC	15122 21126	PRIN IMPRTV COMPTATN INTRO MATHMTCL SFTWR	10.0 3.0	A A	40.0 12.0	Cumula	ative	236.5	210.0	3.81	801.0
MSC PHY BMD	21127 33106 42101	CONCEPTS OF MATHMTCS PHYSICS I ENG STUDNT INTRODUCTION BIOMED	10.0 12.0 12.0	A A B	40.0 48.0 36.0	Summ	er 1/All 2	016		FINAL	QUALITY
PSY CMU	85261 99250	ABNORMAL PSYCHOLOGY SEMINAR PEER TUTORS UNITS	9.0 4.5	A P	36.0 0.0 TOTAL	DPT ECE	CRS # 18499	COURSE TITLE INTERNSHIP	UNITS 3.0	GRADE P	POINTS 0.0
Semest		PASSED 60.5	UNITS FACTORED 56.0	FINAL QPA <b>3.79</b>	POINTS <b>212.0</b>	C		UNITS PASSED	UNITS FACTORED	FINAL QPA	TOTAL POINTS
Cumula	ative	125.5	99.0	3.88	384.0	Cumula		3.0 239.5	0.0 210.0	0.00 3.81	0.0 801.0
Summ	er 1/All 20	015				Fall 20	16				
DPT	CRS#	COURSE TITLE	UNITS	FINAL GRADE	QUALITY POINTS	DPT	CRS#	COURSE TITLE	UNITS	FINAL GRADE	QUALITY POINTS
MSC MSC	21122 21241	INTEGRTN & APPROX MATRC & LINR TRNSF	10.0 10.0	A A	40.0 40.0	CS ROB	15462 16384	COMPUTER GRAPHICS ROBOT KNMATCS DYNMCS	12.0 12.0	C W	24.0 0.0
Semest Cumula		UNITS PASSED 20.0 145.5	UNITS FACTORED 20.0 119.0	FINAL QPA 4.00 3.90	TOTAL POINTS 80.0 464.0	ECE ECE ECE STA	18200 18331 18370 36217	ECE SOPH SEMINAR JUNIOR PROJECTS FNDMNTLS OF CONTROL PROB THEO RNDM PROC	1.0 10.0 12.0 9.0	P A A B	0.0 40.0 48.0 27.0
Summ	er 2 2015					CIT	39220 66221	EXPERNTL LEARNG II TOPICS OF LAW	0.0 9.0	P A	0.0 36.0
DPT	CRS#	COURSE TITLE	UNITS	FINAL GRADE	QUALITY POINTS	Semes	ter	UNITS PASSED 53.0	UNITS FACTORED <b>52.0</b>	FINAL QPA 3.37	TOTAL POINTS 175.0
PHY ENG	33107 76101	PHYSICS II ENG STDNT INTERPRETN & ARGMNT	12.0 9.0	A A	48.0 36.0	Cumula	ative	292.5	262.0	3.73	976.0

# A raised seal is not required.

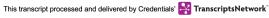
UNITS

PASSED 21.0

166.5

Semester Cumulative

http://www.cmu.edu/hub/transcript-legend.html



UNITS

FACTORED 21.0

140.0

FINAL QPA **4.00** 

3.91

TOTAL POINTS 84.0

548.0



# Carnegie Mellon University Student Name: Xinhe Zhang

tudent Name: Xinhe Zhang Birth Date/Month: 20-May

Spring 20	117

Cumulative		334.5	304.0	3.69	1123.0
Semes	ter	UNITS PASSED 42.0	UNITS FACTORED <b>42.0</b>	FINAL QPA <b>3.50</b>	TOTAL POINTS 147.0
BA	70381	MARKETING I	9.0	Α	36.0
STA	36226	INTRO STATCL INFRCE	9.0	В	27.0
ECE	18491	FNDML SIGNL PRCSNG	12.0	В	36.0
ECE	18240	STRC DES DIGTL SYSTM	12.0	Α	48.0
DPT	CRS#	COURSE TITLE	UNITS	FINAL GRADE	QUALITY POINTS

## Spring 2020

Semester Cumulative		76.0	64.0	4.00	256.0
		UNITS PASSED 37.0	UNITS FACTORED <b>25.0</b>	FINAL QPA <b>4.00</b>	TOTAL POINTS 100.0
ECE	18980	MS GRADUATE PROJECT	1.0	Α	4.0
ECE	18753	INFORMTION THEORY	12.0	Α	48.0
MLG	10708	PROB GRAPHCL MODELS	12.0	Α	48.0
MLG	10707	ADV. DEEP LEARNING	12.0	S	0.0
DPT	CRS#	COURSE TITLE	UNITS	GRADE	POINTS

End of Graduate Record

#### Summer 1/All 2017

DPT	CRS#	COURSE TITLE	UNITS	FINAL GRADE	QUALITY POINTS
ECE	18499	INTERNSHIP	3.0	Р	0.0
		UNITS PASSED	UNITS FACTORED	FINAL QPA	TOTAL POINTS
Semester		3.0	0.0	0.00	0.0
Cumulative		337.5	304.0	3.69	1123.0

#### Fall 2017

Semester Cumulative		382.5	349.0	3.66	1279.0
		UNITS PASSED <b>45.0</b>	UNITS FACTORED <b>45.0</b>	FINAL QPA <b>3.47</b>	TOTAL POINTS 156.0
CIT	39500	HONORS RSCH PROJECT	12.0	Α	48.0
CIT	39402	LDERSP DVEL SEM	9.0	Α	36.0
CIT	39310	EXPERITAL LEARN III	0.0	P	0.0
ECE	18220	ELETRONC DEVC ANL CR	12.0	В	36.0
MLG	10601	MACHINE LEARNING	12.0	В	36.0
DPT	CRS#	COURSE TITLE	UNITS	FINAL GRADE	QUALITY POINTS

Spring	g 2018				Dean's List
DPT	CRS#	COURSE TITLE	UNITS	FINAL GRADE	QUALITY POINTS
MLG	10703	DEEP RL & CONTROL	12.0	Α	48.0
LTI	11611	NATRL LNGUAG PRCSSNG	12.0	Α	48.0
ECE	18500	ECE DESN EXP	12.0	В	36.0
CIT	39500	HONORS RSCH PROJECT	12.0	Α	48.0
Semes	ter	UNITS PASSED 48.0	UNITS FACTORED 48.0	FINAL QPA <b>3.75</b>	TOTAL POINTS 180.0
Cumulative 430.5		430 5	397.0	3.68	1459 0

## End of Undergraduate Record and Beginning of Graduate Record

## Fall 2019

Cumulative		39.0	39.0	4.00	156.0
Semest	ter	UNITS PASSED 39.0	UNITS FACTORED 39.0	FINAL QPA <b>4.00</b>	TOTAL POINTS 156.0
ECE	18980	MS GRADUATE PROJECT	12.0	Α	48.0
ECE	18980	MS GRADUATE PROJECT	15.0	Α	60.0
LTI	11785	INTRO DEEP LRNG.	12.0	Α	48.0
DPT	CRS#	COURSE TITLE	UNITS	FINAL GRADE	QUALITY POINTS

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# Carnegie Mellon University

# Transcript Information

This information is also available at:

dent-records/transcripts/legend.html

#### **Contact Information**

Please direct all questions to The University Registrar's Office:

Carnegie Mellon University Phone: 412-268-4138 University Registrar's Office 5000 Forbes Avenue Fax:412-268-6651

Email:uro-transcrtipts@andrew.cmu.edu Pittsburgh, PA 15213-3890 Website: http://www.cmu.edu/hub

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#### College and department accreditations include:

- Accreditation Board for Engineering Technology (ABET) Chemical Engineering, Civil Engineering, Electrical and Computer Engineering, Éngineering and Public Policy, Mechanical Engineering, and Materials Science and Engineering
- National Architectural Accrediting Board (NAAB) Architecture
- National Association of Schools of Art and Design (NASAD) Art and Design
- National Association of Schools of Music (NASM) Music American Assembly of Collegiate Schools of Business (AACSB) and Middle Atlantic Association of College of Business Administration (MAACBA) - David A. Tepper School of Business; American Chemical Society (ACS) – Chemistry
  National Association of Schools of Public Affairs and Administration (NAPAA) – H. John Heinz

#### Language of Instruction

All Carnegie Mellon University courses are taught in English.

#### **Teaching Location**

This transcript reflects all Carnegie Mellon coursework, independent of campus or teaching

Carnegie Mellon observes the semester system with two six-week summer sessions. Courses may be taught in other shortened sessions.

#### Course Numbers

Each Carnegie Mellon University course number begins with a two-digit prefix which designates the department offering the course (76-xxx courses are offered by the Department of English, etc.) Although each department maintains its own course numbering practices, typically the first digit after the prefix indicates the class level: xx-1xx courses are freshmen-level, xx-2xx courses are sophomore level, etc. xx-6xx courses may be either undergraduate senior-level or graduate-level, depending on the department. Xx-7xx courses and higher are graduate-level.

#### **Degree Requirements**

Degrees are awarded upon satisfactory completion of residence requirements, all requirements in the approved curriculum(a) and by recommendation for degree(s) by the faculty of the appropriate college(s).

#### Units of Work vs. Credit Hours

Three units equal one semester hour of credit.

Quality Point Average (QPA) Calculations
Carnegie Mellon University defines a quality point as a point value times units for a given course. QPAs are calculated according to the following formula

Semester QPA: quality points divided by factorable units

Cumulative QPA: total quality points divided by total factorable units.

Undergraduate courses may not be factorable into the QPA for graduate students, depending on the student's college.

#### Units Carried vs. Passed vs. Factored

Units Carried refers to the total number of units for which the student is registered.

Units Passed is the total of all units that have a passing grade. Grades of 'R', 'N', and 'I' are not

Units Factored is the total of all units factored into QPA. See Grading Standards for grades not factorable into QPA. Undergraduate courses are not factorable into QPA for graduate students.

A separate cumulative QPA is calculated for undergraduate and graduate records. If a student attends for a combination of undergraduate, graduate studies, and/or non-degree studies, a cumulative QPA may not be calculated.

Cumulative QPA may not be available on transcripts for semesters prior to 1989.

#### 4.0 Grading Standards

Undergraduate students (and graduate students in CFA, CIT, CMU, MCS, and SCS who entered before Fall 1995):

Grade	Point Value	Description
A	4.0	Excellent
В	3.0	Good
C	2.0	Satisfactory
D	1.0	Passing
R	0.0	Failure
X	0.0	Conditional Failure
S	non-factorable	Satisfactory
P	non-factorable	Passing
N	non-factorable	Failure in Pass/Fail Course
0	non-factorable	Audit
W	non-factorable	Withdrawal
I	non-factorable	Incomplete
AD	non-factorable	Credit by examination
TR	non-factorable	Transfer credit

#### 4+ Grading Standards / 9.0 Grading Standards

The 4+ grading scale is applicable to graduate students who entered in and after Fall 1995. The 9.0 grading scale is applicable only to certain graduate students who entered before Fall 1995: Students in the Graduate School of Industrial Administration (GSIA, now Tepper School of Business (TSB)), the School of Urban and Public Affairs (SUPA, now Heinz College (HC)), and graduate students who were admitted to the College of Humanities and Social Sciences (H&SS, now Dietrich College (DC)) after August 1986.

Grade	Point Value (4+)	Point Value (9.0)	Description
A+ *	4.33	9	
Α	4.00	8	
A-	3.66	7	
B+	3.33	6	
В	3.00	5	
B-	2.67	4	
C+	2.33	3	
С	2.00	2	
C-	1.67	1	
D+ *	1.33	-	
D *	1.0	0	
R	0.0	0	Failure
X	0.0	-	Conditional Failure
S	non-factorable	non-factorable	Satisfactory
P	non-factorable	non-factorable	Passing
N	non-factorable	-	Failure in Pass/Fail Course
0	non-factorable	-	Audit
W	non-factorable	-	Withdrawal
1	non-factorable	-	Incomplete
AD	non-factorable	-	Credit by examination
TR	non-factorable	-	Transfer credit

\* DC and CIT graduate students are not permitted to receive an A+. TSB and HC graduate students do not receive D or D+ grades.

After the mid-point of the spring 2020 semester, a global pandemic caused a significant disruption that warranted temporary changes to our grading policy. These changes offered broader use of our Pass/No Pass (P/NP) grading option and the acceptance of passing grades to fulfill degree requirements.

#### **Grading Scale & QPA Conversion**

We are unable to provide conversion to other grading scales, such as percentage. A guide to our grading scale is provided on the back of all official transcripts. While we do provide overall semester QPA and cumulative QPA, we are unable to provide an "in-major" QPA (i.e. QPA for courses only in your major).

## **Physical Education Courses**

Physical Education Courses are considered Units Passed in the student's overall semester and cumulative QPA; they are not considered Units Factorable and are not used in calculating the student's overall semester QPA, rank in class or for academic actions.

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Obtain general information about Carnegie Mellon University by calling 412-268-2000.

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