Xi Wen

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Education

University of California, Santa Cruz Expected Graduation: March 2024
Master of Science in Computer Science and Engineering, GPA: 4.00/4.00 *Santa Cruz, CA*
Coursework: Algorithm Analysis, Databases, Artificial Intelligence, Software Project Design

Hong Kong Polytechnic University Sep. 2016 – June 2020
Bachelor of Science in Computing, GPA: 3.61/4.00 *Hong Kong*
Coursework: Data Structures, OOP, Scripting Languages, Machine Learning, Networks, Big Data, Software Engineering

Experience

Software Engineer Aug. 2020 – July 2022
Tencent Holdings Ltd. *Beijing, China*

- Developed and maintained a data management tool used by **50** colleagues for a video streaming platform with over **0.3 billion** daily active users and **3 billion** video views per day
- Implemented the business logic in **C++**, which included various filtering features and metrics tracking
- Used **MySQL relational database** for storing data consumer configurations and model configurations
- Wrote SQL queries to **ClickHouse** to process **3 billion** data per day to display model features, labels, and metrics
- Sent corresponding logs and alerts using **Python** on an hourly and daily basis to notify health, metrics, and warnings, which caught **4** bugs caused by upstream changes
- Improved reusability and system reliability by abstracting out functions, such as filtering methods and negative sampling methods, and allowing users to change the model by editing configurations
- Provided **API** access to the database, allowing the front-end to read and write configurations

Undergraduate Research Assistant June 2019 – Aug. 2019
University of Maryland, College Park, Advised by Dr. Jordan Boyd-Graber *College Park, MD*

- Built a **neural network** using **PyTorch** to predict users' ability to recall flashcard answers for a platform to assist with knowledge-based academic competitions
- Fine-tuned **BERT model** as a language model to learn text representation and increase accuracy
- Validated BERT model by drawing **t-SNE** plots of text representations colored by question categories
- Analyzed metrics such as **F1-score**, **AUC-ROC**, and **confusion matrix** to evaluate the model's performance
- Incorporated CNN layer and **NLP** techniques to improve accuracy by **7%** from baseline, reaching **85.3%**

Summer Research Assistant July 2018 – Aug. 2018
Massachusetts Institute of Technology, Advised by Prof. Hal Abelson *Cambridge, MA*

- Implemented positioning functions with Bluetooth Low Energy in **Java**, by filtering **RSSI**(Received Signal Strength Indicator) signals, converting to distance, and calculating positions based on the distances
- Implemented **3** algorithms for filtering, converting and calculating, as signals vary under different temperatures
- Used Android Bluetooth library to get the **RSSI** and used **Apache-Math-3 library** in calculating the distances
- Published a workshop paper introducing the use cases of block-based approaches to **IoT**

Projects

Arrcus Project | *Networking, SRv6, Python, Kafka, TimescaleDB, React, Flask* Jan. 2023 – Present

- Detected networking anomalies of SRv6 like duplicated MAC addresses, sFlow Interface errors from streamed data
- Consumed streamed routing data from **Kafka Topic** and did exploratory data analysis using **Python**
- Writing and reading the anomalies information into a time series database **TimescaleDB**
- Visualized the **network topology**, displayed the anomalies and sent alerts in the front-end in **React**

E-commerce Web Application | *HTML/CSS, Javascript, Flask, PHP, MySQL* Sept. 2018 – Dec. 2018

- Developed a web application that allows users to view products, add to shopping carts, and make purchases
- Implemented a responsive front-end with **REST API** using **HTML/CSS**, **Javascript** and **Flask**
- Utilitized **MySQL** as a **relational database** to store product, customer and order information
- Connected the website to the MySQL using **PHP** to send and receive data

Technical Skills

Programming Languages: C++/C, Python, Java, SQL, JavaScript, HTML/CSS, PHP
Libraries/Frameworks: pandas, NumPy, Scikit, Matplotlib, Tensorflow, PyTorch, React, Node.js
Tools/Databases: Linux, Git, MySQL, Docker, AWS, Kafka, ClickHouse, VS Code, IntelliJ, Eclipse
Machine Learning: Logistic Regression, KNN, K-Means, Decision Trees, Neural Networks, SVM, Naive Bayes

UNIVERSITY OF CALIFORNIA SANTA CRUZ

***** U N O F F I C I A L *****

Name: **Wen, Xi**
Student ID: **2005917**

Institution Info: University of California, Santa Cruz
1156 High Street
Santa Cruz, CA 95064

Beginning of Graduate Record

2022 Fall Quarter

Program: Computer Science & Engineer
Plan: MS in Computer Science and Engineering

Course		Description	Attempted	Earned	Grade	Points
CSE	200	Research & Teaching	3.00	3.00	S	0.000
CSE	201	Analysis Algorithms	5.00	5.00	A	20.000
LAAD	210	OralCommunication:TAs	2.00	2.00	S	0.000

Academic Standing Effective 12/14/2022: Good Standing

			Attempted	Earned	GPA Units	Points
Term GPA	0.00	Term Totals	10.00	10.00	5.00	20.000
Transfer Term GPA		Transfer Totals	0.00	0.00	0.00	0.000
Combined GPA	0.00	Comb Totals	10.00	10.00	5.00	20.000
Cum GPA	0.00	Cum Totals	10.00	10.00	5.00	20.000
Transfer Cum GPA		Transfer Totals	0.00	0.00	0.00	0.000
Combined Cum GPA	0.00	Comb Totals	10.00	10.00	5.00	20.000

2023 Winter Quarter

Program: Computer Science & Engineer
Plan: MS in Computer Science and Engineering

Course		Description	Attempted	Earned	Grade	Points
CSE	115B	Software Design Pro	5.00	5.00	A+	20.000
CSE	215	Design Data Systems	5.00	5.00	A	20.000
CSE	240	Artif Intelligence	5.00	5.00	A+	20.000

Academic Standing Effective 03/29/2023: Good Standing

			Attempted	Earned	GPA Units	Points
Term GPA	0.00	Term Totals	15.00	15.00	15.00	60.000
Transfer Term GPA		Transfer Totals	0.00	0.00	0.00	0.000
Combined GPA	0.00	Comb Totals	15.00	15.00	15.00	60.000
Cum GPA	0.00	Cum Totals	25.00	25.00	20.00	80.000
Transfer Cum GPA		Transfer Totals	0.00	0.00	0.00	0.000
Combined Cum GPA	0.00	Comb Totals	25.00	25.00	20.00	80.000

2023 Spring Quarter

Program: Computer Science & Engineer
Plan: MS in Computer Science and Engineering

Course		Description	Attempted	Earned	Grade	Points
CSE	210A	Programming Languag	5.00	5.00	A+	20.000
CSE	290C	Adv Machin Learning	5.00	5.00	A	20.000
PHYE	9B	BegDinghySailing	0.00	0.00	S	0.000
PHYE	15N	Tennis	0.00	0.00	S	0.000
PHYE	25A	Fencing: Epee	0.00	0.00	S	0.000

Academic Standing Effective 06/15/2023: Good Standing

			Attempted	Earned	GPA Units	Points
Term GPA	4.00	Term Totals	10.00	10.00	10.00	40.000
Transfer Term GPA		Transfer Totals	0.00	0.00	0.00	0.000
Combined GPA	4.00	Comb Totals	10.00	10.00	10.00	40.000

***** U N O F F I C I A L *****

Name: **Wen, Xi**
Student ID: **2005917**

Cum GPA	4.00	Cum Totals	35.00	35.00	30.00	120.000
Transfer Cum GPA		Transfer Totals	0.00	0.00	0.00	0.000
Combined Cum GPA	4.00	Comb Totals	35.00	35.00	30.00	120.000

2023 Summer Quarter

Program: Computer Science & Engineer
Plan: MS in Computer Science and Engineering

Course		Description	Attempted	Earned	Grade	Points
CSE	297F	Ind Study/Research	2.00	0.00		0.000

			Attempted	Earned	GPA Units	Points
Term GPA	0.00	Term Totals	2.00	0.00	0.00	0.000
Transfer Term GPA		Transfer Totals	0.00	0.00	0.00	0.000
Combined GPA	0.00	Comb Totals	2.00	0.00	0.00	0.000
Cum GPA	4.00	Cum Totals	37.00	35.00	30.00	120.000
Transfer Cum GPA		Transfer Totals	0.00	0.00	0.00	0.000
Combined Cum GPA	4.00	Comb Totals	37.00	35.00	30.00	120.000

Graduate Career Totals

Cum GPA:	4.00	Cum Totals	37.00	35.00	30.00	120.000
Transfer Cum GPA		Transfer Totals	0.00	0.00	0.00	0.000
Combined Cum GPA	4.00	Comb Totals	37.00	35.00	30.00	120.000

End of *** U N O F F I C I A L ***

THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大學

TRANSCRIPT OF STUDIES
學業成績表

Name: WEN Xi (温希)
ID / Passport No.: 120113199804260*** Student No.: 16098574D

Study Starting From	Programme Title	Mode of Attendance
2016-2017 Semester 1	BSc (HONS) INTERNET & MULTIMEDIA TECHNOLOGIES	FULL-TIME
2017-2018 Semester 1 (Transferred study)	BSc (HONS) COMPUTING	FULL-TIME
2017-2018 Semester 2	BSc (HONS) COMPUTING MINOR IN BUSINESS ADMINISTRATION	FULL-TIME
2019-2020 Semester 2	BSc (HONS) COMPUTING	FULL-TIME

Qualification(s) Attained

BACHELOR OF SCIENCE IN COMPUTING (GPA for Major: 3.61)
WITH SECOND CLASS HONOURS, DIVISION 1
GPA for Award: 3.61
Year/Semester of Graduation: 2019-2020 Semester 2
Year of Award: 2020

Subject Code/Title		Credit	Grade/Code
2016-2017 Semester 1	GPA (cumulative): 4.00		
AMA1110	BASIC MATHEMATICS I - CALCULUS AND PROBABILITY & STATISTICS	3.0	A+
EIE1002	ELECTRONICS SCIENCE	3.0	A+
EIE2106	SIGNAL AND SYSTEM ANALYSIS	3.0	A+
ELC1014	ADVANCED ENGLISH FOR UNIVERSITY STUDIES	3.0	A
ENG1003	FRESHMAN SEMINAR FOR ENGINEERING	3.0	C+
ENG2002	COMPUTER PROGRAMMING	3.0	A
2016-2017 Semester 2	GPA (cumulative): 3.91		
APSS1L01	TOMORROW'S LEADERS	3.0	A
COMP1003	STATISTICAL TOOLS AND APPLICATIONS	1.0	B+
COMP1011	PROGRAMMING FUNDAMENTALS	3.0	A+
COMP2012	DISCRETE MATHEMATICS	3.0	A
COMP3512	LEGAL ASPECTS, PROFESSIONALISM AND ETHICS OF COMPUTING	3.0	A+
ELC2012	PERSUASIVE COMMUNICATION	3.0	B+
ELC3521	PROFESSIONAL COMMUNICATION IN ENGLISH	2.0	A
ENGL2001	ENGLISH FOR PROFESSIONAL COMMUNICATION	3.0	C+
2016-2017 Summer Term	GPA (cumulative): 3.85		
Joined an exchange programme			
APSS1A21	SERVICE LEADERSHIP	3.0	B
2017-2018 Semester 1	GPA (cumulative): 3.81		
COMP1001	PROBLEM SOLVING METHODOLOGY IN INFORMATION TECHNOLOGY	3.0	A
COMP2011	DATA STRUCTURES	3.0	A+
COMP2021	OBJECT-ORIENTED PROGRAMMING	3.0	C
COMP2121	E-BUSINESS	3.0	A
COMP2411	DATABASE SYSTEMS	3.0	B+
COMP2421	COMPUTER ORGANIZATION	3.0	A
COMP4422	COMPUTER GRAPHICS	3.0	B

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Subject Code/Title		Credit	Grade/Code
2017-2018 Semester 2	GPA (cumulative): 3.66		
AF2111	ACCOUNTING FOR DECISION MAKING	3.0	B
CBS1102P	ADVANCED COMMUNICATION SKILLS IN CHINESE	3.0	B+
COMP2222	INTRODUCTION TO HUMAN-COMPUTER INTERACTION METHODS	3.0	B
COMP2322	COMPUTER NETWORKING	3.0	B+
COMP2432	OPERATING SYSTEMS	3.0	B+
COMP3021	PROGRAMMING LANGUAGE PARADIGMS	3.0	B+
COMP4434	BIG DATA ANALYTICS	3.0	B
2018-2019 Semester 1	GPA (cumulative): 3.74		
COMP2021	OBJECT-ORIENTED PROGRAMMING	3.0	A
COMP3011	DESIGN AND ANALYSIS OF ALGORITHMS	3.0	B+
COMP3211	SOFTWARE ENGINEERING	3.0	A
COMP3438	SYSTEM PROGRAMMING	3.0	A
COMP4433	DATA MINING AND DATA WAREHOUSING	3.0	B+
2018-2019 Semester 2	GPA (cumulative): 3.74		
Joined an exchange programme			
2019-2020 Semester 1	GPA (cumulative): 3.74		
CLC3242P	CHINESE FOR PROFESSIONAL COMMUNICATION IN COMPUTING	2.0	B+
COMP4913	CAPSTONE PROJECT	6.0	L
2019-2020 Semester 2	GPA (cumulative): 3.63		
BME1D04	SKIN-CARE TECHNOLOGIES: PRINCIPLES, APPLICATIONS AND SAFETY	3.0	B+
CBS2C04P	APPRECIATION OF THE FOUR GREAT CLASSICAL CHINESE NOVELS	3.0	B+
CC2S01P	APPRECIATING AND APPLYING CHINESE LITERARY MASTERPIECES IN MODERN DAILY LIFE	3.0	B
COMP3000	WORK INTEGRATED EDUCATION	4.0	P
COMP4913	CAPSTONE PROJECT	6.0	C+

Credit Transfer

Subject Code/Title		Credit	Grade/Code
2017-2018 Semester 1			
AMA1104	INTRODUCTORY PROBABILITY	2.0	N/A
APSS1A21	SERVICE LEADERSHIP	3.0	B
APSS1B11	GLOBALIZATION AND THE CHANGING MIDDLE CLASS	3.0	N/A
APSS1L01	TOMORROW'S LEADERS	3.0	A
COMP1003	STATISTICAL TOOLS AND APPLICATIONS	1.0	B+
COMP1011	PROGRAMMING FUNDAMENTALS	3.0	A+
COMP2012	DISCRETE MATHEMATICS	3.0	A
COMP3511	LEGAL ASPECTS AND ETHICS OF COMPUTING	2.0	N/A
COMP4431	ARTIFICIAL INTELLIGENCE	3.0	N/A
EIE1002	ELECTRONICS SCIENCE	3.0	A+
EIE2106	SIGNAL AND SYSTEM ANALYSIS	3.0	A+
ELC1014	ADVANCED ENGLISH FOR UNIVERSITY STUDIES	3.0	A
ELC2012	PERSUASIVE COMMUNICATION	3.0	B+
ELC3522	ENGLISH FOR TECHNICAL PROJECT WRITING	2.0	A
ENG2002	COMPUTER PROGRAMMING	3.0	A
2019-2020 Semester 1			
COMP3903	TRANSFERRED CREDITS FOR SUBJECTS STUDIED OVERSEAS (9 CREDITS)	9.0	N/A

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Name: WEN Xi (温希)
ID / Passport No.: 120113199804260*** Student No.: 16098574D

Subject Withdrawal

Subject Code/Title		**Credit**
2018-2019 Semester 1		
COMP4122	GAME DESIGN AND DEVELOPMENT	3.0

Credit Requirement and Attainment

BSc (HONS) COMPUTING
Programme Credit Requirement: 124.0 including 4.0 Training credit(s)
Student Credit Requirement: 121.0 including 4.0 Training credit(s)

Credits Attained: 124.0 including 4.0 Training credit(s)

Other Mandatory Graduation Requirement(s)

Completed (separate certification(s) is/are issued)
- approved Healthy Lifestyle programme
- approved Work-integrated Education activities

Remarks

- Included in the Dean's Honours List 2016/17.

- End of Transcript -

for Registrar

THE HONG KONG POLYTECHNIC UNIVERSITY 香港 理工大學

Date of Issue: 01 September 2021

TRANSCRIPT OF STUDIES
學業成績表

EXPLANATION

1. Credit

A credit is used to indicate student effort. A student is expected to spend about 35 to 45 hours of study (inclusive of contact hours, private study, etc.) to earn a credit.

2. Grade/Code

Grade/ Code	Grade Point *(From 2020-21)*	Interpretation *(From 2020-21)*	Grade Point *(Before 2020-21)*	Interpretation *(From 2009-10 to 2019-20)*	Interpretation *(From 2002-03 to 2008-09)*	Interpretation *(Before 2002-03)*
A+	4.3	Excellent	4.5	Exceptionally Outstanding	Excellent	Outstanding
A	4.0		4.0	Outstanding		Excellent
A-	3.7		*(Not Applicable)*	*(Not Applicable)*	*(Not Applicable)*	*(Not Applicable)*
B+	3.3	Good	3.5	Very Good	Good	Very Good
B	3.0		3.0	Good		Good
B-	2.7		*(Not Applicable)*	*(Not Applicable)*	*(Not Applicable)*	*(Not Applicable)*
C+	2.3	Satisfactory	2.5	Wholly Satisfactory	Satisfactory	Wholly Satisfactory
C	2.0		2.0	Satisfactory		Satisfactory
C-	1.7		*(Not Applicable)*	*(Not Applicable)*	*(Not Applicable)*	*(Not Applicable)*
D+	1.3	Pass	1.5	Barely Satisfactory	Marginal	Barely Adequate
D	1.0		1.0	Barely Adequate		Weak
F	0.0	Fail	0.0	Inadequate	Failure	Inadequate
I	*	Assessment to be completed (from 2005-06) / Incomplete not due to the fault of student (before 2005-06)				
L	*	Subject to be continued in the following semester				
M	*	Pass with Merit (from 2006-07)				
N	*	Assessment is not required				
P	*	Pass on an ungraded subject				
S	0.0	Absent from assessment				
U	*	Fail on an ungraded subject				

(* omitted in the calculation of all GPAs)
Grades with the following symbols denote disqualification of result due to:
academic dishonesty / non-compliance with examination regulations (before 2019-20)
% academic dishonesty (from 2019-20)
@ non-compliance with examination regulations (from 2019-20)

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3. GPA

GPA (cumulative)	The cumulative Grade Point Average is the average calculated for all subjects taken.
GPA for Major	For students taking a major/minor option, their award classifications will be based on the GPAs they obtained for both their major and minor studies.
GPA for Minor	The Grade Point Average for Minor takes into account subjects which are relevant to the student's minor studies.
GPA for Award	The Grade Point Average for Award is the final GPA value based on which the award classification of a student is determined.

All GPA values are capped at 4.00 before 2020-21. From 2020-21 onwards, all GPA values are not capped, and the highest GPA value is 4.30.

Grades obtained through credit transfer will also be taken into consideration in the GPA calculation.

Starting from the 2005-06 academic year, only the grade obtained in the final attempt of a retaken subject will be included in the calculation of the above GPAs. For some programmes, weightings may be applied in the calculation of the GPA for Award.

4. Credits Attained

The Credits Attained only take into consideration those credits which are relevant for contributing to the award being pursued by a student.

5. Medium of Instruction

English is the medium of instruction and is used for classes, written assignments and examinations unless special approval has been given to a subject due to its specific nature.

- End of Explanation -