

# Xi Yu

E-mail: [yuxi3721@gmail.com](mailto:yuxi3721@gmail.com) | Tel.: 971-754-9805

Web: <https://Cecilia831.github.io/yuxi/> | LinkedIn: [xi-yu-744209126](https://www.linkedin.com/in/xi-yu-744209126) | Github: <https://github.com/Cecilia831> | [GoogleScholar](#)

## EDUCATION

---

<b>Portland State University (PSU)</b>	09/2018-12/2021
<ul style="list-style-type: none"><li>▪ M.S. of Computer Science and Ph.D. candidate</li><li>▪ Independent Research in cognitive wireless networks    advisor: Prof. <a href="#">Nirupama Bulusu</a></li></ul>	
<b>Liaoning Normal University (LNU)</b>	09/2015-06/2018
<ul style="list-style-type: none"><li>▪ Master of Management in Management Science and Engineering    advisor: Prof. Weilian Xue</li><li>▪ President of Information Department of LNU Graduates' Union</li></ul>	
<b>Dalian University of Technology (exchange experience)</b>	01/2017-01/2018
<ul style="list-style-type: none"><li>▪ Major: Computer Science and Technology (Lab for Ph.D.)    advisor: Prof. Heng Qi</li></ul>	
<b>Shenyang Ligong University (SLU)</b>	09/2010-06/2014
<ul style="list-style-type: none"><li>▪ Bachelor of Management in Information Management and Information Systems</li></ul>	

## SKILLS

---

C, C++, C#, Matlab, Python, Scala, Java, SQL, Script, JavaScript, CSS, HTML, MS Office, LaTeX, GitHub, WireShark, PhotoShop, Coreldraw, Pascal, QBasic, MS Visio, Linux

## CERTIFICATION

---

<b>Udemy Product Manager Certificate</b>	06/23/2023
--	------------

## PROJECTS

---

### Sensor Test-bed / Mobile Health

- Work on a contactless sleep-monitoring device on Arduino with PIR motion sensor, photoelectric sensor etc.
- Monitor human body movement, visible light CO2 density, display data visualization on website
- Work on Arduino IDE and programming in C, setup the breadboard with sensors and jumper wires

### Systems and Networks

- Upgrade server with multi-threads processing to reduce systems burden on server
- Implement the package sending with curl on clients side and write Script for testing
- Simulate different mathematical modeling(e.g. Monte Carlo) in sector sweep in mmWave initial access
- Build and simulate multi-objects optimization on cognitive radio networks

### ML

- Train the data under both supervised and unsupervised learning and show results with Numpy
- Build and train networks of perceptrons with linear activation functions
- Work on back-propagation in multi-layers neural network
- Compare the prediction accuracy: mean absolute error (MAE) between decision trees, SVMs, logistic regression and KNN, from the outcome, discuss which model is optimal for the problem define, compare the advantage and disadvantages of these methodologies.

### AI

- Do reinforce learning (Compare Q-learning and double Q-learning) with OpenAI Gym on PoleCart problem
- Implement the Q-learning, A\* search, genetic algorithm, Monte Carlo search and simulated annealing
- Implement ant colony algorithms and simulate for the best index in a model

### AR/ VR/ XR/ Computer Graphic / Multimedia

- Deploy Vuforia Engine AR package on Unity, add the Vuforia Camera, Vuforia marker
- Build a simple image editing tool includes dithering, sampling, filtering and composition with FLTK library
- Create a virtual amusement park with OpenGL, do texture mapping and parametric instancing

- Work on a image compression tool

## EXPERIENCE

<b>Software developer   Spruce Box Construction Inc. (hybrid, Portland, OR)</b>	09/2022-present
<ul style="list-style-type: none"> <li>▪ Optimize the workflow of accounting process in Buildertrend and Quickbooks</li> <li>▪ Setup .NET framework and connect with OAuth authentication API</li> <li>▪ Data input automation with Script by C#</li> <li>▪ Work in small team</li> </ul>	
<b>Data Engineer internship   Kaleidoscope Analytics Inc.(remote)</b>	05/2022-09/2022
<ul style="list-style-type: none"> <li>▪ Analyze and extract relevant information from large amounts of both structured and unstructured data</li> </ul>	
<b>Manufacturing Test Technician   Lam Research Inc. (Tualatin, OR)</b>	09/2022-11/2022
<ul style="list-style-type: none"> <li>▪ Responsible for testing multiple product types such as SABRE, SABRE 3D and SABRE FI-PPT</li> <li>▪ Perform leak/sensor check (vacuum, water, pressure decay) using debug tools like Cell Fusion/KM Matrix</li> <li>▪ Promote to White Hat for new assignments with minimal supervision (Independent worker)</li> <li>▪ Work with coworkers on specialized test projects for Gemini tool, use proper escalation path</li> </ul>	
<b>Teaching Assistant   Computer Science department at Portland State University</b>	09/2018-03/2019 10/2019-06/2020
<ul style="list-style-type: none"> <li>▪ CS161 Introduction to Programming and Problem Solving for Prof. Ellie Harmon</li> <li>▪ CS199 Programming and problem solving and CS250 Discrete Math and structures for Prof. David Ely</li> <li>▪ Post tutor session, evaluate and grade examinations, assignments, improve average score</li> </ul>	
<b>Retail Represent &amp; Lead Art Editor   AsusTek Computer Inc. ( Shenyang, China, PRC)</b>	11/2010 - 06/2012
<ul style="list-style-type: none"> <li>▪ Conducted market analysis among ASUS computer retailers in Shenyang</li> <li>▪ Responsible for online management of ASUS forum and offline promotion for our products</li> <li>▪ Conducted brand marketing and sold our products in a retailer during summer vacation</li> <li>▪ Conducted market research to survey how many people will recommend ASUS mainboard and graphics card to others</li> </ul>	

## EXTRACURRICULAR ACTIVITIES

<b>Volunteer   SKY Breathwork &amp; Meditation at PSU REC Center</b>	06/2020-present
<ul style="list-style-type: none"> <li>▪ Community building and support, event support, usher, escort</li> </ul>	
<b>Volunteer for Mentor Program and Scholarship Program   Portland Women In Tech (PDXWIT)</b>	07/2022-present
<ul style="list-style-type: none"> <li>▪ Enhance the professional development of women in technology by building trust and creating partnerships in the Portland community</li> <li>▪ Review scholarship applications, give comments and feedback for improvement to community members</li> </ul>	

## HONORS & AWARDS

IEEE Pervasive Computing and Communications 2021 NSF Participation grants for US-based students	03/2021
Academic Scholarship in LNU	04/2016 & 04/2017 & 04/2018
The Third-class Prize in the 2nd Urban Management Innovation Design Competition	08/2017
The First-class Prize for Excellent Paper awarded by Logistics Technology	11/2016
Excellent Student Cadre in LNU	11/2016
The Excellent Prize in College Students Innovation and Entrepreneurship Program in SLU	10/2013
Merit Student in SLU	12/2011 & 12/2012
The Second-class Scholarship in SLU	12/2011 & 12/2012
First Prize in 2011 National English Competition for College Students	05/2011
Excellent Prize in SLU Media Creative Design Competition	10/2010
The Third-class Prize in National Olympiad in Informatics in Provinces (Liaoning area)	12/2007
The Second-class Prize in National Olympiad in Informatics in Provinces	12/2005

## PUBLICATIONS

---

- Suresh Srinivasan, **Xi Yu**, A. Keshavarz-Haddad, Ehsan Aryafar, "**Fair Initial Access Design for mmWave Wireless**", *The International Conference on Network Protocols (IEEE ICNP 2020)* 10/10/2019
- Xi Yu**, Weilian Xue, "**Joint Spectrum Allocation and Power Control for Cognitive Radio Networks Based on Potential Game**", *The International Symposium on Networks, Computers and Communications (IEEE ISNCC 2018)* 04/01/2018
- Weilian Xue, **Xi Yu**, et.al., "**Study on School Bus Path Planning Based on Improved Ant Colony Algorithm**", *Journal of Transport Science and Engineering* 03/30/2017
- Weilian Xue, **Xi Yu**, et.al., "**Study on One-way School Bus Path Planning Based on Flooding Algorithm**", *Logistics Technology* 10/25/2016

## RESEARCH EXPERIENCES

---

- Design, Analysis and Applications of mmWave Full-Duplex Wireless** 09/2020-06/2021
- Learn and understand the state-of-art 802.11ad protocol, collect and analyze data, test and simulate the different sector swap and find the best allocation
  - Duplicate the state-of-arts research experiments
- Research on RF Techniques for State Sensing in Complex Environment** 08/2017-09/2020
- Responsible for algorithm design and system design
  - Conduct system analysis through simulation, modeling, and implement the systems
- Research on the Key Techniques of Spectrum Management in Cognitive Radio Networks** 01/2013-12/2016
- Sort out relevant literature, establish mathematical model
  - Responsible for system analysis and testing
- Study on Key Development of Internet Plus in Dalian** 10/2015-10/2016
- Design questionnaires and posted them on the Internet, formulate pattern for community nursing service
  - Conduct group discussion, Made slides to share our ideas