

Xi Yu

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EXPERIENCE

Software Developer | Spruce Box Construction Inc. (hybrid, Portland, OR)

09/2022-present

- Led the stages of systems development product lifecycle from requirement gathering to production releases
- Optimized the workflow of accounting process in Buildertrend and Quickbooks, setup data input automation with Script by C#
- Led the process to select ambitious, but realistic coding milestones on pre-release software project development
- Participated in architecture, design and implementation of back-end features using C#, and wrote script through open-source tool LibreAutomate

Data Automation ([source code](#))

- Worked on open-source tool LibreAutomate, collaborated with Selenium, tried testing data on web-based database, write in C#
- Captured UI elements and automated imputing data into cloud-based database

Manufacturing Test Technician 2 | Lam Research Inc. (Tualatin, OR)

09/2022-11/2022

- Responsible for testing multiple product types such as SABRE, SABRE 3D and SABRE FI-PPT
- Performed leak/sensor check (vacuum, water, pressure decay) using debug tools like Cell Fusion/KM Matrix
- Promoted to White Hat (Independent worker) for new assignments with minimal supervision in 3 month (shortest record)
- Worked with coworkers on specialized test projects for Gemini tool, using proper escalation path

Research Assistant | Computer Science department at Portland State University (Portland,OR)

09/2018-12/2021

- Gathered, arranged, and corrected research data to create representative graphs and carts highlighting results for presentations
- Performed qualitative, and quantitative analysis with Matlab, implemented data visualization
- Attended seminars and symposiums to improve overall knowledge and understanding
- Worked both independently and collaboratively in fast-paced laboratory environment

Systems and Networks ([source code](#))([video](#))

- Upgraded server with multi-threads processing to reduce systems burden on backend server, improved [30%](#) efficiency, write in C
- Implemented the package sending with curl on clients side and write Script to test
- Implemented socket APIs to establish communication links between remote and local processes
- Monitored network performance with WireShark
- Simulated different mathematical modeling(e.g. Monte Carlo) in sector sweep in mmWave initial access to find best beam

Sensor Test-bed/ Mobile Health ([source code](#))

- Collaborated work on a contactless sleep-monitoring device on Arduino with PIR motion sensor, photoelectric sensor etc.
- Collected sensor data by monitoring human body movement, visible light, CO2 density
- Worked on Arduino IDE and programming in C, setup the breadboard with sensors and jumper wires
- Sleepy - contactless sleep-monitoring device helped recognize sleep quality to make users be aware of their sleep, much accurate than Fitbit, iWatch and iPhone

AR/ VR/ MR/ XR ([source code](#))([video](#))

- Developed Vuforia Engine AR package on Unity, added the Vuforia Camera and Vuforia marker, implemented on iPhone
- Collaborated work on interactive game Crazy Kitchen with locomotion and customer hand, write in C#

Computer Graphic / Multimedia ([source code](#))

- Built a simple image editing tool includes dithering, sampling, filtering and composition with FLTK library, wrote in C++
- Created a virtual amusement park with OpenGL, did texture mapping and parametric instancing
- Worked on a image compression tool

ML /AI ([source code](#))

- Trained the data under supervised and unsupervised learning, showed results with Numpy, built and trained networks of perceptrons with linear activation functions, worked on back-propagation to build multi-layers neural network,write in Python
- Compared the prediction accuracy: mean absolute error (MAE) between decision trees, SVMs, logistic regression and KNN, from the outcome, discussed which model is optimal for the problem define, compared the advantage and disadvantages of these methodologies.
- Implemented reinforce learning (Compare Q-learning and double Q-learning) with OpenAI Gym to solve PoleCart problem

- Implemented algorithms: Q-learning, A* search, genetic algorithm, Monte Carlo search and simulated annealing
- Implemented ant colony algorithms and simulate to find the best index in a model

Lead Art Editor & Retail Represent | AsusTek Computer Inc. (Shenyang, China, PRC)

11/2010-06/2012

- Conducted market analysis among ASUS computer retailers in Shenyang
- Responsible for online management of ASUS forum and offline promotion for our products
- Conducted brand marketing and sold our products in a retailer during summer vacation
- Conducted market research to survey which retailer will recommend ASUS mainboard and graphics card to customers
- Promoted the team badge making activity of Shenyang on social media platforms, posted tutorial of designing process on Bulletin Board System, collected the designs from various colleges campus and invited students to vote for their favorite, picked out the best design, produced physical badges and distributed to all team members across 3 school campuses

EDUCATION

Portland State University (PSU) | GPA: 3.43/4

09/2018-12/2021

- M.S. of Computer Science | Independent Research in cognitive wireless networks | advisor: Dr. Nirupama Bulusu

Liaoning Normal University (LNU) | GPA:91/100

09/2015-06/2018

- M.Mgmt. in Management Science and Engineering | President of Information Department of LNU Graduates' Union | advisor: Dr. Weilian Xue

Dalian University of Technology (exchange experience)

01/2017-01/2018

- Major: Computer Science and Technology (Lab for Ph.D.) | advisor: Dr. Heng Qi

Shenyang Ligong University (SLU) | GPA:3.25/4

09/2010-06/2014

- B.Mgmt in Information Management and Information Systems

SKILLS

Programming Languages: C, C++, C#, Matlab, Python, Scala, Java, SQL, JavaScript, CSS, HTML, .NET

Software Tools: Github, LaTeX, WireShark, curl, MS Visio, Xcode, Visual Studio, Unity, Numpy, OAuth, socket programming, Vim, GDB

Operating Systems: Windows, Linux, Unix, MacOS, Shell script, Bash

Current Study: LibreAutomate, C#, Selenium

RESEARCH EXPERIENCES

Design, Analysis and Applications of mmWave Full-Duplex Wireless (PSU)

09/2020-06/2021

- Learned the state-of-art 802.11ad protocol, collected and analyzed data, tested and simulated the different sector swap and found the best allocation, duplicated 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, conducted system analysis through modeling, implemented the system

Research on the Key Techniques of Spectrum Management in Cognitive Radio Networks

01/2013-12/2016

- Sorted out relevant literature, established mathematical model, responsible for system analysis and testing

Study on Key Development of Internet Plus in Dalian

10/2015-10/2016

- Designed questionnaires and posted them on the Internet, conducted group discussion, formulated pattern for community nursing service, made slides to share our ideas
- Formulated pattern for community nursing service for elder people, built the structure of elderly care service regarding government policy, designed questionnaires and posted to the underlying customers and gained public awareness

HONORS & AWARDS

IEEE Pervasive Computing and Communications 2021 NSF Participation grants for US-based students

03/2021

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

CERTIFICATION

[Udemy Product Manager Certificate](#)

06/23/2023

VOLUNTEER

SKY Breathwork & Meditation at PSU REC Center

06/2020-present

- Community building and support, event support, usher, escort

Mentor Program and Scholarship Program | Portland Women In Tech (PDXWIT)

07/2022-present

- Enhance the professional development of women in technology by building trust and creating partnerships in the Portland community, Helped no-tech background mentees to transform to tech related roles
- Review scholarship applications, give comments and feedback for improvement to community members