# Bernadette Tix

4218 Apollo Dr, Anchorage, AK, 99504 (907) 444-4172 bjavery@hawaii.edu https://bjtix.github.io/


# Curriculum Vitae

## RESEARCH

1. (Accepted for conference: HCI International 2024, June 2024 https://2024.hci.international/about.html) Tix, B. (2024). Better Results Through Ambiguity Resolution: Large Language Models that Ask Clarifying Questions. *HCI International 2024: Applications of Augmented Cognition.*

2. Berkelman, P., & Tix, B. (2020). Simultaneous Independent Translational and Rotational Feedback Motion Control System for a Cylindrical Magnet Using Planar Arrays of Magnetic Sensors and Cylindrical Coils. *IEEE Magnetics Letters, 11*, 1-5.

3. Berkelman, P., Tix, B., & Abdul-Ghani, H. (2019). Electromagnetic Position Sensing and Force Feedback for a Magnetic Stylus with an Interactive Display. *IEEE Magnetics Letters, 10*, 1-5.

4. Avery, B., Garner, G. (2011) *Digital Image Printing* (US Patent No. US8789904B2) (Filed under previous name B.J. Avery)

## TEACHING

Teaching Assistant at UH Manoa:

- S17 ICS 361 Introduction to Artificial Intelligence Programming
- S17 ICS 461 Artificial Intelligence
- F17 ICS 211 Intro to CS II
- F17 ICS 313 Programming Language Theory

## EDUCATION

**JAN 2017 - PRESENT**

### **(IN PROGRESS) PHD COMPUTER SCIENCE,** UNIVERSITY OF HAWAI'I AT MANOA

Dissertation: *Better Results Through Ambiguity Resolution: Large Language Models that Ask Clarifying Questions.*
Topics: AI, HCI, modes of human interaction with large language models.
Expected graduation: 2024

**JAN 2015 - MAY 2017**

### **MS MECHANICAL ENGINEERING,** UNIVERSITY OF HAWAI'I AT MANOA

Thesis: *A Magnetic Localization Technique Designed for Use with Magnetic Levitation Systems*
4.0 GPA. Focus on Robotics.

**AUG 2006 - MAY 2010**

### **BS COMPUTER SCIENCE,** NORTHERN ARIZONA UNIVERSITY

Minors in Mathematics and Mechanical Engineering

# WORK EXPERIENCE

**DEC 2017 – PRESENT**

### **SYSTEMS ANALYST & AI ADVISOR,** ANCHORAGE SCHOOL DISTRICT

Provided expert advice on topics related to AI in education, presented findings to district leadership and school principals. Managed Summer Oasis and other State Reporting for multiple years. Implemented ticketing assignment recommendation system. Added multi-lingual capability to Online Registration and led Online Registration team. Performed cost-benefit analysis and implementation of HOA Health System. Lead Instruct Prog Export Schema team. Member of Strategic Taskforce Outcome Monitoring Team.

**JAN 2017 – DEC 2017**

### **TEACHING ASSISTANT,** UH MANOA, DEPT. OF COMPUTER SCIENCE

Ran labs, created and administered quizzes, created study guides, provided tutoring and office hours, graded papers and programming assignments. Courses in Artificial Intelligence, programming language theory, and intro to computer science.

**JAN 2015 – AUG 2017**

### **RESEARCH ASSISTANT,** UH MANOA, HUMAN ROBOT INTERACTION LAB

Developed novel medical application for magnetic levitation in wireless endoscopy. Work included designing and performing experiments and statistical analyses, circuit design and construction, simulation design and construction, software programming, and academic writing.

**JUN 2015 – NOV 2015**

### **ROBOTICS CONSULTANT,** AKABOTICS

Designed and built control system for aquatic canal-dredging robot with both fully autonomous and remote-control modes. https://www.akabotics.net/

**APRIL 2014 – DEC 2014**

### **PROGRAMMER ANALYSIT,** BENTON COUNTY, OR

Built efficient automated software for previously slow and manual property tax review, environmental health incident tracking, and project finance reports.

**NOV 2010 – APRIL 2013**

### **SOFTWARE ENGINEER,** HEWLETT PACKARD

Cut costs by over $1M by increasing efficiency of R&D tools and production line control software. Patented high-speed printing algorithm for inkjet printers, dramatically increasing the speed of end-of-line testing procedures. (Patent# US8789904B2, filed under previous name B.J. Avery). Developed and deployed control software for R&D and manufacturing tools in USA and Ireland.

## PROGRAMMING LANGUAGES

- C++ 9 years
- OpenGL 9 years
- Java 9 years
- .Net 7 years
- SQL 6 years
- .Net MVC 4 years
- C 4 years
- Arduino 3 years
- MATLAB 3 years
- Javascript 2 years
- Fortran 1 year
- PHP 1 year

## SOFTWARE PROFICIENCY

- Visual Studio
- SSRS Reports
- SSMS
- Microsoft Office
- Sharepoint
- Jira
- Eclipse
- Google suite
- Microsoft Project
- Microsoft Access
- Solidworks
- Linux

## VOLUNTEER ACTIVITIES

- Fencing Instructor, Schola St. George (Anchorage & Honolulu) *January 2015 – Present*
- Graduate Student Government Student Advocacy Lead, Honolulu *June 2017-June 2018*
- Instructor, “Creative Programming”, CRDG, Honolulu, HI *June 2015 - August 2015*
- Math Tutor at College Hill High School, Corvallis, OR *December 2014 - April 2014*
- Mentor for FIRST Robotics Team 997, Corvallis OR *2012 and 2013 seasons*