# Akku Hanni

[Akkamahadevi Hanni]
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## Education

**Arizona State University** — Tempe, AZ
*Ph.D. in Computer Science | GPA: 3.9/4.0* — *Expected Fall 2025*

**University of Massachusetts** — Lowell, MA
*Exchange student at the 'Global Innovation and Entrepreneurship' program* — *Summer 2016*

**Visveswaraya Technological University** — Hubli, India
*Bachelor of Computer Science and Engineering | GPA: 8.95/10.0* — *Aug 2013 – Jun 2017*

## Research

**Safe and Explainable Behavior Generation** — Spring 2019 – Present
*Supervisor: Prof. Yu Zhang | CRS Lab, SCAI, ASU*

- **Research Interests:** AI Safety, Explainable AI Planning (XAIP), Human-aware AI Planning and Learning, Reinforcement Learning, Constrained Optimization.
- **Dissertation:** Investigated the problem of ensuring safety in explainable planning techniques through cumulative reward-based measures, probabilistic positive-invariance measures, and Linear Temporal Logic (LTL) specifications in Reinforcement Learning.
- **Other Research:** Modeling dynamic human expectations for generating explainable behavior in AI agent. Online Explanation Generation in human-robot teaming to reduce cognitive load on a human teammate. Learning abstract human labelling process of a robot's actions using active learning to reduce sample complexity.

## Publications

**Safe Explicable Policy Search**
**A. Hanni**, J. Montano, and Y. Zhang. [Under Review]

**Safe Explicable Planning**
**A. Hanni**, A. Boateng and Y. Zhang. In the International Conference on Automated Planning and Scheduling (ICAPS), 2024.

**Generating Active Explicable Plans for Human-Robot Teaming**
**A. Hanni** and Y. Zhang. In the International Conference on Intelligent Robots and Systems (IROS), 2021.

**Active Explicable Planning for Human-Robot Teaming**
**A. Hanni** and Y. Zhang. In the International Conference on Human-Robot Interaction (HRI) Late-Breaking Reports, 2021.

**Online Explanation Generation for Human-Robot Teaming**
M. Zakershahrak, Z. Gong, **A. Hanni** and Y. Zhang. In the International Conference on Automated Planning and Scheduling (ICAPS) Workshop on Explainable AI Planning, 2019.

**Perfect Observability is a Myth: Restraining Bolts in the Real World**
M. Verma, N. Shah, R. Nayyar, and **A. Hanni**.

## Professional Experience

**Applied Scientist Intern** — May 2022 – Aug 2022
*Amazon.com Inc.* — *Sunnyvale, CA, USA*

- Worked with Amazon's Astro team to improve object detection of hard-to-see objects.
- Developed a reinforcement learning approach for active perception to improve confidence in object detection during indoor scene mapping/recognition.

**Software Development Intern** — May 2021 – Aug 2021
*Esri* — *Redlands, CA, USA*

- Worked with Esri's notebook server team to analyze and optimize processing times of deep learning workflows on GPU instances.
- Built Single Shot Detector (SSD) model for detecting objects on NAIP imagery on Esri's ArcGIS notebooks.

**Software Engineer** Jul 2017 – Jun 2018

*Juniper Networks* *Bangalore, India*

- Validated Network Function Virtualization using Open Stack Orchestration. Built SD-WAN solutions and microservices for Cloud Services Platform (CSP) that manage all components/protocols of network devices on cloud using python.
- Developed internal plugins for TICK stack (infuxDB), used for analyzing time series log data using GOlang.

**Software Engineering Intern** Feb 2017 – Jun 2017

*Juniper Networks* *Bangalore, India*

- Designed and developed automation of BGP flow spec profile. Contributed towards the development of Juniper's python-based test framework called TOBY used for testing all Juniper's hardware profiles.

## Teaching Experience

### Graduate Teaching Instructor

- Artificial Intelligence (CSE 571) | *Fall 2024;*
- Principles of Programming with c++ (CSE 100) | *Spring 2020;*
- Introduction to Engineering (FSE 100) | *Fall 2019, Fall 2020, Fall 2021;*

### Graduate Teaching Assistant

- Artificial Intelligence (CSE 571) | *Spring 2020, Fall 2020, Fall 2021, Fall 2022, Spring 2024;*
- Introduction to Artificial Intelligence (CSE 471) | *Spring 2021, Spring 2022, Spring 2023, Fall 2023;*
- Data Processing at Scale (CSE 511) | *Spring 2022;*
- Human-Computer Interaction (CSE 463) | *Fall 2018;*
- Evaluation of Informatics Systems (CPI 350) | *Spring 2019;*
- Introduction to Programming (CSE 110) | *Fall 2018, Spring 2019, Fall 2020;*

## Honors and Services

- University Graduate Fellowship 2025
- Invited Talk at Toyota Research Institute of North America (TRINA) 2025
- SCAI Doctoral Fellowship 2024
- SCAI and ASU Graduate College Travel Grants 2024
- GPSA Grad Slam winner 2023
- Conference Reviewer / PC member - ICAPS 2025, AAAI 2024, 2023; Neurips 2024, 2023; IROS 2023, 2024; RSS 2023; HRI 2021.
- Received Department Recognition Award and Spot Bonus Award for Outstanding Performance and Contributions in Juniper Networks.
- Lead organizer for **Daan Utsav** (India's largest volunteer driven philanthropic event) in Dharwad district, 2016.
- Served as the Vice President of the Association of Computer Science Students at BVBCET, Hubli 2014-2016.