Abdulaziz Almuzairee

Assistant Professor of Computer Engineering, Kuwait University
Email aalmuzairee@gmail.com | Website https://aalmuzairee.github.io

RESEARCH INTERESTS

Robot Learning • Reinforcement Learning • World Models • Computer Vision • Sim-to-Real Transfer

EXPERIENCE

Assistant Professor Jul 2026 – Present
Kuwait University, Department of Computer Engineering Kuwait City, Kuwait

- Leading research in robot learning, visual reinforcement learning, and sim-to-real transfer.
- Instructor of record for *Machine Learning* and *Computer Programming for Engineers*.

Graduate Student Researcher Sep 2021 – Jun 2026
University of California San Diego, advised by Prof. Henrik I. Christensen San Diego, CA

- Developed **Squint**, a visual Soft Actor-Critic algorithm that trains faster than prior visual RL methods, learning policies in 15 minutes on a single consumer GPU that transfer zero-shot to a real SO-101 arm with 91.3% success.
- Implemented robot calibration, camera setup, and control loops for real-world SO-101 and xArm-6 experiments.
- Proposed **MAD**, a multi-camera view RL method that improves success rates by 30% on Meta-World and 36% on ManiSkill3 while remaining robust to missing cameras.
- Introduced **SADA**, an augmentation recipe that stabilizes visual Q-learning, and released the **DMC-GB2** benchmark.

Deep Learning Research Intern Jun 2022 – Sep 2022
Qualcomm AI Research, mentored by Steve Han and Hong Cai San Diego, CA

- Researched LiDAR 3D object detection, tracking, and segmentation on KITTI, Waymo, and nuScenes.
- Contributed to **X-Align**, a camera and LiDAR fusion framework for bird's-eye-view segmentation, published at WACV 2023 and extended in *Machine Vision and Applications* (2023).

EDUCATION

Ph.D. in Computer Science and Engineering Jun 2026
University of California San Diego San Diego, CA
Thesis: *Democratizing Visual Robot Learning*.
Advisor: Prof. Henrik I. Christensen (Chair). Committee: Prof. Nikolay Atanasov, Prof. Julian McAuley, Prof. Michael Yip.

M.S. in Electrical and Computer Engineering Dec 2020
Carnegie Mellon University Pittsburgh, PA

B.S. in Computer Engineering Jul 2019
San Diego State University San Diego, CA

TEACHING

Instructor of Record Fall 2026
Kuwait University Kuwait City, Kuwait
Machine Learning (0612-336/436) and *Computer Programming for Engineers* (0600-200)

Graduate Teaching Assistant Spring 2025
University of California San Diego, with Prof. Rose Yu (200 students) San Diego, CA
Deep Learning (CSE 251B)

PUBLICATIONS

RA-L 2026 **Squint: Fast Visual Reinforcement Learning for Sim-to-Real Robotics**
A. Almuzairee, H. I. Christensen
IEEE Robotics and Automation Letters Paper | Website | Code

CoRL 2025 **Merging and Disentangling Views in Visual Reinforcement Learning for Robotic Manipulation**
A. Almuzairee, R. Patil, D. Bhatt, H. I. Christensen
Conference on Robot Learning Paper | Website | Code

RLC 2024 **A Recipe for Unbounded Data Augmentation in Visual Reinforcement Learning**
A. Almuzairee, N. Hansen, H. I. Christensen
Reinforcement Learning Conference Paper | Website | Code

MVA 2023 **X-Align++: Cross-Modal Cross-View Alignment for Bird's-Eye-View Segmentation**
S. Borse, S. Yogamani, M. Klingner, V. Ravi, H. Cai, **A. Almuzairee**, F. Porikli
Machine Vision and Applications, vol. 34, no. 4 Paper

WACV 2023 **X-Align: Cross-Modal Cross-View Alignment for Bird's-Eye-View Segmentation**
S. Borse, M. Klingner, V. R. Kumar, H. Cai, **A. Almuzairee**, S. Yogamani, F. Porikli
IEEE/CVF Winter Conference on Applications of Computer Vision Paper

OPEN SOURCE AND SELECTED PROJECTS

- **Squint** github.com/aalmuzairee/squint
  Open-source codebase for fast visual reinforcement learning and sim-to-real deployment on SO-101 robot arms.
- **DMControl Generalization Benchmark 2 (DMC-GB2)** github.com/aalmuzairee/dmcgb2
  Benchmark for visual reinforcement learning under geometric and photometric distribution shifts.
- **BiSense Haptic VR Glove**, San Diego State University bisense.org | 2018 – 2019
  Student-led VR glove that tracks hand motion in virtual environments and delivers fingertip haptic feedback on virtual contact. As Mathematics Lead, built the quaternion pipeline mapping IMU data to real-time hand motion.

TECHNICAL SKILLS

Machine Learning	PyTorch, JAX, CUDA, Weights & Biases
Robotics	SO-101 and xArm-6 arms, LeRobot, ROS
Simulation	ManiSkill3, Isaac Sim, Isaac Lab, MuJoCo, DeepMind Control Suite, Meta-World, robosuite, Gymnasium-Robotics
Programming and Tools	Python, C, Java, Docker, Git
Languages	Arabic, English

HONORS AND SERVICE

Reviewer, IEEE Robotics and Automation Letters (RA-L) 2026
Reviewer, ICML, CoRL, and the Reinforcement Learning Conference (RLC) 2025
Kuwait University PhD Fellowship 2021
Summa Cum Laude, San Diego State University 2019