# Dylan Khor

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## EDUCATION

**Iowa State University** — Ames, IA
*Master of Science in Computer Science (CGPA: 3.96)* — *Aug. 2023 – Dec. 2025*
  - **Thesis:** "Sampling-based Optimized Adaptive Discretization and its Applications in Robotics"

**Iowa State University** — Ames, IA
*Bachelor of Science in Bioinformatics and Computational Biology (CGPA: 3.98)* — *Aug. 2020 – May 2023*

## EXPERIENCE

**Apprentice Software Engineer** — May 2025 – Aug. 2025
*Source Allies* — *Urbandale, IA*
  - Collaborated cross-functionally to enhance the account management system's observability and internal chatbot user experience following Extreme Programming (XP) principles.
  - Deployed IaC using Terraform, integrating Azure Functions and Service Bus for event-driven, asynchronous communication between HR tool and dependent systems, reducing response times.
  - Migrated Azure applications to OIDC authentication, removing secret rotation dependencies and mitigating credential exposure risks.
  - Built multi-session chatbot functionality with FastAPI (Python) and React TypeScript, enabling parallel, context-aware conversations for HR and developer workflows.
  - Enhanced RAG pipeline with GitHub documentation integration and Cohere Rerank 3.5 via Amazon Bedrock, improving response accuracy by 10%.

**Graduate Research and Teaching Assistant** — Aug. 2023 – Present
*Iowa State University* — *Ames, IA*
  - Conducting research on adaptive discretization and safety testing techniques in robotics to improve real-world applicability and efficiency.
  - Applied expertise in Python programming, algorithm design, and machine learning to mentor students toward academic success.
  - Recognized with the **Teaching Excellence Award (Fall 2024)** for outstanding performance.

**Voting Machine Research Assistant** — Jun. 2023 – Aug. 2023
*Iowa State University* — *Ames, IA*
  - Tested usability of a third-party voting machine with disabled study participants to assess accessibility and user experience.
  - Used FFmpeg and Rubber Band software to tune audio pitch for privacy protection.

## PROJECTS

**Portfolio Website** | *React, Vite, Tailwind CSS, Three.js*
  - Developed a personal portfolio optimized for accessibility and responsiveness across devices.
  - Integrated interactive 3D visuals with React Three Fiber for an engaging user experience.

**3D Modeler** | *C++, Vulkan*
  - Built a computer graphics interface for 3D object modeling, compatible with tools like Blender and SolidWorks.

**Checkers-AI** | *Java*
  - Created a single-player Checkers game featuring an AI opponent and intuitive graphical interface.

**Randomized Progressive Deblurring for Image Classification** | *Python, PyTorch, OpenCV*
  - Proposed a new training approach for image classification models, achieving a 24% average improvement in generalization.

## TECHNICAL SKILLS

**Languages**: Python, TypeScript, JavaScript, Java, C++, HTML/CSS, SQL, Bash
**Frameworks & Libraries**: React, Tailwind CSS, Node.js, Jest, FastAPI, PyTorch, OpenCV, MuJoCo
**Cloud & Infrastructure**: Azure (**Fundamentals Certified**), AWS, Terraform
**Developer Tools**: Git, Docker, Linux, Postman, VS Code