

HRIDYA DHULIPALA

PH.D. CANDIDATE | COMPUTER SCIENCE, UTD

Research Advisor - **Dr. Tien N. Nguyen**

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Specialization in AI-driven software testing and security. Research focuses on Large Language Models (LLMs) for fuzzing, web UI testing & automation, and vulnerability detection. Expertise in deploying practical AI solutions for software reliability and security challenges.

EDUCATION

UNIVERSITY OF TEXAS AT DALLAS (CLASS OF 2027)

M.S. & Ph.D. in Computer Science

BMS COLLEGE OF ENGINEERING (CLASS OF 2021)

B.E. in Electronics and Communication

TEACHING

TEACHING ASSISTANT (FALL 2022 - SPRING 2025)

Department of Computer Science, UTD

PATENTS

ENHANCED RETRIEVAL-AUGMENTED GENERATION FRAMEWORK WITH USER-DEFINED WEIGHTING OF KNOWLEDGE SOURCES FOR BUSINESS DOCUMENT GENERATION (PENDING)

In Collaboration with DMI LLC

WORK EXPERIENCE

AI RESEARCHER

DMI (In Collaboration with UTD) | June 2024 - Present

- **Patent Development:** Co-invented Enhanced RAG Framework with user-defined weighting (Patent Pending).
- **NLP Compliance Automation:** Deployed production-scale tool for automated proposal evaluation, reducing manual review time by 80% for enterprise clients.
- **AI-Assisted Code Migration:** Developed an AI-driven pipeline to automate Angular version upgrades and dependency refactoring, improving migration speed and reducing manual intervention.

BUSINESS TECHNOLOGY ANALYST - CORE BUSINESS OPERATIONS

Deloitte India (Offices of the US) | September 2021 - July 2022

- **Full Stack Development:** Built and optimized enterprise-grade microsites and web applications with Angular.js, Java, HTML, and CSS.
- **Backend Engineering:** Developed scalable server-side systems in Java, ensuring performance and reliability.
- **Quality Assurance:** Implemented JUnit testing frameworks to strengthen robustness and reduce defects.

INTERN - SOFTWARE AND INTELLIGENCE (WEB TECHNOLOGIES)

Ather Energy Pvt. Ltd. (Startup) | February 2021 - August 2021

- **End-to-End Web Solutions:** Designed and deployed full-stack applications and microsites using Node.js, HTML, and CSS.
 - **Front-End Development:** Built responsive, user-centric interfaces and optimized performance across devices.
 - **Debugging & Optimization:** Identified and resolved critical UI issues, improving overall user experience.
 - **Startup Impact:** Contributed to delivering agile, innovative web solutions in a high-growth startup environment.
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RESEARCH PAPERS

FSE 2025

CRISPE: SEMANTIC-GUIDED EXECUTION PLANNING AND DYNAMIC REASONING FOR ENHANCING CODE COVERAGE PREDICTION

Hridya Dhulipala, Aashish Yadavally, Smit Patel, Dr. Tien N. Nguyen

BLENDED ANALYSIS FOR PREDICTIVE EXECUTION

Yi Li, **Hridya Dhulipala**, Aashish Yadavally, Xiaokai Rong, Shaohua Wang, Dr.Tien Nguyen

ICSE 2025

PLANNING A LARGE LANGUAGE MODEL FOR STATIC DETECTION OF RUNTIME ERRORS IN CODE SNIPPETS

Smit Patel, Aashish Yadavally, **Hridya Dhulipala**, Dr. Tien N. Nguyen

ICSE (FORGE) 2024

PLANNING TO GUIDE LLM FOR CODE COVERAGE PREDICTION

Hridya Dhulipala, Aashish Yadavally, Dr. Tien N. Nguyen

IEEE CONECCT 2022

SIGN LANGUAGE RECOGNITION AND TRANSLATION TO SPEECH FOR MINE WORKERS USING DEEP LEARNING TECHNOLOGIES

Hridya Dhulipala, Sowmya Hegde, Chaya Hegde, Swetha Gumpena, Dr. Geetishree Mishra

FSE 2026

(UNDER REVIEW)

PROGRAM-FOR-THOUGHT: TOWARDS ADAPTIVE PLANNING FOR WEB TEST SCRIPT GENERATION

Hridya Dhulipala, Xiaokai Rong, Aashish Yadavally, Dr. Tien N. Nguyen

CERBERUS: COVERAGE-GUIDED, EXECUTION-FREE FUZZ TESTING FOR CODE SNIPPETS

Hridya Dhulipala, Xiaokai Rong, Dr. Tien N. Nguyen

DO LARGE LANGUAGE MODELS UNDERSTAND CODE LIKE HUMANS?

Xiaokai Rong, Aashish Yadavally, **Hridya Dhulipala**, Anh Nguyen, Dr. Tien N. Nguyen

ADAPTAGENT: A MULTI-AGENT, DOMAIN-GUIDED REASONING FRAMEWORK FOR ONLINE, CONTEXT-AWARE CODE ADAPTATION

Xiaokai Rong, **Hridya Dhulipala**, Aashish Yadavally, Dr. Tien N. Nguyen

TECHNICAL SKILLS

- **Research Areas** - AI-assisted Web Testing & Automation, AI/ML techniques for Fuzz Testing and Software Security
- **ML/DL Frameworks** - PyTorch, TensorFlow, Keras
- **Programming Languages** - Python, C++, JAVA, C, SQL
- **Web Development Tools** - HTML, CSS, NodeJS and AngularJS
- **Web Automation & Testing Frameworks** - Selenium, Playwright, PyTest, JUnit, Cypress

CERTIFICATIONS

- Machine Learning, Stanford University
 - Data Analysis with Python, IBM
 - Security Fundamentals, Microsoft Technology Associate
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