

# 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.

## 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

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## 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
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## CERTIFICATIONS

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