Jahidul Islam

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🔗 jahidulzaid.github.io   **in** jahidulzaid   ⌨ jahidulzaid

Professional Summary

AI-focused Computer Science graduate specializing in AI agents, chatbots, and LLM-based agentic systems. Hands-on experience building ReAct and CodeAct agents for competition-level code generation, automated reasoning, and multi-step task execution. Proficient in Python (LangChain, LangGraph), RAG architectures, and agent orchestration frameworks. Demonstrated success in developing intelligent agents that leverage tool use, chain-of-thought reasoning, and action planning. Passionate about advancing autonomous agent capabilities and building production-ready AI systems that solve complex real-world problems.

Education

B.Sc. in Computer Science and Engineering   *Jan 2026*
Green University of Bangladesh
  ○ CGPA: 3.50/4.00

Higher Secondary Certificate (Science)   *2019*
Barkota H/S College, Comilla Board
  ○ GPA: 5.00/5.00

Secondary School Certificate (Science)   *2017*
Lalpur Nazrul Islam High School, Comilla Board
  ○ GPA: 4.95/5.00

Thesis & Research

Optimizing Retrieval-Augmented Generation (RAG) Models
Researching RAG optimizations for knowledge graphs, focusing on improved retrieval pipelines and embeddings to enhance temporal reasoning and answer accuracy. Supervised by **Professor Dr. Md. Saiful Azad** ↗, Dean, Faculty of Science and Engineering (FSE), Green University of Bangladesh.

Publications

PyBangla at BLP-2025 Task 2: Enhancing Bangla-to-Python Code Generation with Iterative Self-Correction and Multilingual Agents ↗
BLP Workshop @ AACL-IJCNLP 2025 (A* Conference)
Jahidul Islam, Md Ataullha, Saiful Azad.

Speculative ReActRAG: Hybrid Multi-Perspective Retrieval-Augmented Generation with Structured Validations
Under Review
BanglaNostalgia: A Benchmark Dataset and Comparative Study for Nostalgia Detection in Bangla Social Media Text
Accepted
2026 IEEE 2nd International Conference on Quantum Photonics, Artificial Intelligence & Networking

Experience

AI Developer   *(November 2025 –*
Softvence Agency - Betopia Group   *Present)*
  ○ Worked on end-to-end ML and NLP pipelines, including data preprocessing, model training, and evaluation for clients
  ○ Built and deployed GenAI-powered chatbots using LLMs with context-aware dialogue, retrieval-augmented responses
  ○ Developed FastAPI microservices for model hosting, LLM inference, embeddings, RAG retrieval

- ○ Implemented robust backend integrations using Docker, REST APIs, async event handling, and efficient request pipelines
- ○ Integrated OpenAI, Anthropic, and local LLM models into production-ready architectures

AI Agent Developer (Research & Development) *(May 2025 – Present)*
Independent Research Projects
- ○ Developed ReAct (Reasoning + Acting) agents for autonomous problem-solving using LangChain and LangGraph, implementing tool-calling workflows with chain-of-thought reasoning for multi-step task execution
- ○ Built **PyBanglaCodeAct**agents for competition-level code generation, achieving automated solution generation for algorithmic problems through iterative refinement and execution feedback loops
- ○ Created automated research paper evaluation pipeline: PDF text extraction, LLM-based analysis for novelty/quality/contribution assessment, structured output, and reviewer assignment using OpenAI API

Organizing Secretary — IEEE Computer Society SB Chapter, Green University *(March 2025 – Present)*
Membership Development Coordinator — IEEE SB, Green University *(Jan 2024 – Feb 2025)*
Assistant Marriage Registrar & Kazi *(2021 – 2025)*
Office Daudkandi Pourashava (4, 5 & 6 Ward), Daudkandi, Cumilla
- ○ Assisted in official document processing related to marriage registration
- ○ Maintained accurate marriage registers and records and supported various administrative and legal formalities related to matrimonial affairs

Skills

AI Agent Development: ReAct Agents, CodeAct Agents, Tool-calling Workflows, Agent Orchestration, Multi-Agent Systems, Autonomous Task Execution
LLM & AI Frameworks: LangChain, LangGraph, vLLM, Prompt Engineering, Chain-of-Thought Reasoning, Function Calling, RAG (Retrieval-Augmented Generation)
Programming: Python, C++, Java, SQL (MySQL), JavaScript, PHP
Python Libraries: NumPy, Pandas, Scikit-learn, Hugging Face, OpenAI API, Anthropic API, PyPDF2
Machine Learning & AI: LLMs (GPT, Claude, open-source models), NLP, Computer Vision, Model Inference (vLLM), Knowledge Graphs, Embedding Models, Vector Databases, Fine-tuning
Web Development & APIs: FastAPI, Django, Laravel, HTML, CSS, JavaScript
Tools & Technologies: Git, GitHub, Docker, REST APIs, JSON, CSV Processing, Linux
Soft Skills: Problem Solving, Design, Research, Technical Communication, Team Collaboration, Adaptability

Projects

Automated Research Paper Evaluation & Reviewer Assignment System
- ○ Built end-to-end LLM-powered pipeline for research paper review and evaluation from PDF files
- ○ Implemented PDF text extraction and preprocessing module for academic paper parsing
- ○ Designed advanced prompt engineering strategies to extract structured assessments: novelty, format quality, contribution, and overall paper quality from LLM responses
- ○ Integrated OpenAI API with optimized rate limiting, error handling, and structured output parsing, achieving consistent structured responses through careful prompt design

Competition-Level PyBanglaCodeAct Agent System *github.com/jahidulzaid/ PyBanglaCodeActAgent* ☒
- ○ Developed coding agent, ReAct-style BanglaCodeAct architecture for competitive programming problem-solving
- ○ Implemented iterative code generation, execution, debugging, and refinement with LLM-powered reasoning
- ○ Integrated code execution sandbox, test case validation, and error feedback mechanisms
- ○ Achieved successful automated solution generation for algorithmic challenges using Python and LangChain

Shared Task 2 – BLP Workshop 2025 *blp-workshop.github.io/ sharedtasks* ☒
- ○ Ranked 9th in dev phase and 17th in test phase for Bangla Language Processing (BLP) Workshop 2025
- ○ Built a bilingual (Bangla–English) LLM agent system with agentic workflows using LangChain and custom prompt strategies for complex text understanding and generation tasks
- ○ Designed multi-step reasoning pipeline for improved accuracy in low-resource language processing

Agentic RAG Chatbot *github.com/jahidulzaid/ Agent-ChatBot* ↗

○ Conversational chatbot with open-source LLM models and context-aware conversation management

CodeCraft-Academy (Learning Platform) *github.com/jahidulzaid/ CodeCraft-Academy* ↗

○ Laravel-based platform for interactive programming learning

○ Role-based access, quiz system, progress tracking

○ Multi-language course support with Online Judge

E-Commerce App: SuperShop *ijahidul-shop.wasmer.app* ↗

○ Responsive Laravel-based e-commerce platform

○ Features: user login, cart, orders, admin panel

○ Implemented secure routing and dynamic content rendering

Intrusion Detection System (IDS)

github.com/jahidulzaid/IDS ↗

○ CLI-based Python project using machine learning

○ Detects anomalies in datasets and rule-matching

Training & Certifications

Certificate — Python with Django (EDGE - ICT Division)	*(July 2025)*
Certificate — PHP with Laravel (BASIS-BITM)	*(August 2023)*
1st Runner-Up — IT Olympiad, GUB CSE Carnival	*(2024)*

Extracurricular Activities

○ Active participant in university programming contests and hackathons

○ Solved 600+ competitive programming problems on platforms like Codeforces (@jahidulzaid ↗), Beecrowd, VJudge (@jahidulzaid ↗), HackerRank, and LeetCode

○ Volunteer for technical workshops and coding bootcamps at Green University

○ Member, Green University Computer Club (GUCPC)

○ Organized and hosted AI/ML study groups and peer learning sessions

○ Contributor to open-source projects and online coding communities

Language Proficiency

Bangla: Fluent (Reading, Writing, Speaking)
English: Fluent (Reading, Writing, Speaking) – WSDA (New Zealand) Certified

References

Professor Dr. Md. Saiful Azad, PhD ↗
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Md. Ataullha ↗
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