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Md Rashad Al Hasan Rony

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EDUCATION

Doctor of Philosophy in Computer Science (Conversational AI - RAG & Graph RAG), The University of Bonn, Germany
Master of Science in Computer Science (Focus: Intelligent Systems), The University of Bonn, Germany

JOB EXPERIENCE

Senior Generative AI Architect, Deutsche Telekom AG, Berlin, Germany	Feb 2024 - Present
Senior Generative AI Specialist, BMW Group, Munich, Germany	Aug 2022 - Jan 2024
Machine Learning Scientist, Fraunhofer IAIS, Dresden, Germany	Aug 2020 - Jul 2022
Visiting Scientist, InfAI - Institüt für Angewandte Informatik, Dresden, Germany	May 2020 - Jul 2020
Student Research Assistant, Fraunhofer IAIS, Sankt Augustin, Germany	Aug 2018 - Apr 2020

INDUSTRY PROJECTS

Deutsche Telekom (Department: AI Competence Center (AICC))　　　　　　February 2024 — Present
- **Project**: 1) AI Agents for fiber factory 2) AskT - AI Assistant for internal employee
- **Responsibilities**:

  – Architecting and developing AI Agents to automate manual processes in the fiber factory domain (potentially saving multi-million Euro).
  – Developed LLM-as-a-Judge for evaluating AI Assistant (evaluated 20k conversations/day automatically).
  – Communicating with stakeholders to gather project requirements and mentoring junior scientists.

BMW Group (Department: Central Invention - Generative Artificial Intelligence)　　August 2022 — January 2024
- **Projects**: 1) CarExpert: BMW Intelligent Personal Assistant and 2) BMW Traffic Jam Assistant
- **Responsibilities**:

  – Transferred a conversational AI system from R&D into production (showcased at the BMW and Amazon booth in CES 2024).
  – Architecture design, code integration and deployment of GPT-based dialogue system (50% time).
  – Developed LLM-based evaluation metrics.
  – Technical project management (50% time) and provided consultancy to stakeholders and project leaders.
  – Published research papers into top scientific conferences (EMNLP, ECIR, LREC-COLING etc.).

Fraunhofer IAIS (Department: Conversational AI and Knowledge Graphs)　　　　Aug 2018 — Jul 2022
- **Projects**: 1) Large Language Model-based Conversational AI, 2) OpenGPT-X, 3) DP-DHL Machine Reading Comprehension on Finance-Wiki, 4) Answer-KiNG: Deutsch Machine Reading Comprehension, 5) Climate Change Bot, 6) Volkswagen Emphatic Dialogue System and 7) Volkswagen Knowledge Driven Dialogue System
- **Responsibilities**:

  – Published research papers into top scientific conferences (ACL, NAACL, IJCAI etc.).
  – Led the generative dialogue team and developed prompt-guided natural sounding and safe dialogue system.
  – Fine-tuned language models for semantic information retrieval and question answering.
  – Led the development of a German machine reading comprehension and dialogue system.
  – Implemented and fine-tuned a Machine Reading Comprehension (MRC) pipeline on financial domain.
  – Implemented an MRC pipeline for developing a climate change bot.
  – Implemented and extended a CDQA-based data annotation tool.
  – Trained a Tacotron model for text to speech generation.
  – Implemented a fallback question answering system.

SKILLS

Tools and Languages	Python, PyTorch, LangChain, Vector Database, OpenAI, Huggingface, Crew AI, Docker, Git, AWS, MCP
Research Expertise	LLMs, Dialogue and Question Answering Systems, Information Retrieval and Knowledge Graphs
Communication	English (professional), Deutsch (intermediate), Bengali (native)

- **AWS Certified Solution Architect Associate** (from AWS)
- **Neo4j Certified Professional**

RECENT PUBLICATIONS (FIRST AUTHOR)

- Incorporating Query Recommendation for Improving In-car Conversational Search (**ECIR 2024**)
- CarExpert: Leveraging Large Language Models for In-Car Conversational Question Answering (**EMNLP 2023**)
- DialoKG: Knowledge-Structure Aware Task-Oriented Dialogue Generation (**NAACL 2022**)
- RoMe: A Robust Metric for Evaluating Natural Language Generation (**ACL 2022**)
- Climate Bot: A Machine Reading Comprehension System for Climate Change Question Answering (**IJCAI 2022**)