

KALLOL NAHA

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PROFESSIONAL SUMMARY

Graduate student with 12 years of experience in full-stack development, specializing in Artificial Intelligence (AI), Natural Language Processing (NLP), and bioinformatics. Extensive experience delivering innovative solutions to complex challenges, with nearly 10,000 hours of hands-on work through freelance projects. Currently focused on advancing AI applications in personalized healthcare and sustainable agriculture.

EDUCATION

UNIVERSITY OF IDAHO

Moscow, Idaho

PhD in Computer Science

Expected December 2025

Dissertation Topic: A Visual Language-Based Workflow Querying System for Bioinformatics.

GPA: 4.00/4

UNIVERSITAT ROVIRA I VIRGILI

Tarragona, Spain

Master's in Computer Engineering

2014-2016

Thesis Topic: Automatic preference learning on semantic attributes.

GPA: 7.91/10

SHAHJALAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

Sylhet, Bangladesh

B.Sc. (Engg.) in Computer Science and Engineering

2003-2008

Thesis Topic: Devise, extend and upgraded algorithm of gene sequence for local alignment.

GPA: 3.64/4

TECHNICAL SKILLS

1. **Programming Languages:** Python, C++, Java, Julia, PHP, R, JavaScript, Rust, HTML.
2. **LLM & ML:** TensorFlow, GPT4, BART, Llama, Mistral, LangChain, LoRA, Pytorch, Scikit-learn, Keras.
3. **Web Frameworks:** Flask, Django, Laravel, Yii2, Next.js
4. **Front-End:** React.js, D3.js, Vis.js, HTML, CSS, JavaScript, Matplotlib, Plotly, ggplot2, Bokeh, Tableau.
5. **SQL Databases:** MySQL, PostgreSQL, Oracle, MongoDB, SQLite.
6. **High-Performance Computing Tools:** OpenMP, CUDA.
7. **Cloud Computing:** Amazon AWS (EC2, RDS, S3), Digital Ocean.
8. **Development Tools:** Jupyter, LaTeX, Jira, Asana, Zendesk, Git (GitHub, GitLab).

WORK EXPERIENCE

1. UNIVERSITY OF IDAHO

Moscow, ID

Graduate Research Assistant

Aug 2024 – Present

- Developing the CAFE database to support research in areas such as agricultural economics, sustainability, nutrient management and food safety within the Idaho Center for Agriculture, Food and the Environment.
- Collaborating with interdisciplinary teams to address challenges in livestock, dairy and food processing sectors, focusing on solutions related to water use, environmental quality, and production management.

2. **UNIVERSITY OF IDAHO** Moscow, ID
Graduate Teaching Assistant Aug 2021 – August 2024
 - Conducted and graded lab sessions for Computer Science I (C++ programming) and Database Systems, ensuring students gained practical understanding of key concepts.
 - Assisted students with hands-on programming exercises, provided guidance and mentorship.
 - Developed comprehensive curricula and lab materials for Database Systems, emphasizing integration into full-stack development projects.
3. **ASL SYSTEMS** Dhaka, Bangladesh
DEVS Consultant (Part – Time) Jul 2020 – Jul 2021
 - Leveraged expertise in Python, C++, and PHP to develop and validate DEVS (Discrete Event System Specification) solutions, incorporating data science techniques.
 - Applied Agile development methodologies and continuous integration principles.
4. **COVER WHALE INSURANCE SOLUTIONS, INC** New York City, New York
Remote Full-Stack Developer (Contract via Upwork) Jul 2020 – Aug 2021
 - Pioneered the initial insurance quote generation system's development.
 - Applied PHP, SQL, JavaScript to engineer insurance quote system.
5. **B2EVOLUTION GROUP** Luxembourg
Remote Full-Stack Developer (Contract via Upwork) Feb 2020 – Jul 2020
 - Collaborated on new feature development, testing, and deployment for b2evolution.
 - Improved performance and usability by enhancing existing features within b2evolution.
6. **PRISM INTELLIGENCE LLC** Spokane, Washington
Remote Software Developer (Contract via Upwork) Jul 2019 – Jan 2020
 - Collaborated with a team to enhance, and maintain an existing system built on the Yii2 framework.
 - Utilized PHP within the Yii2 framework to build robust and efficient back-end functionalities.
7. **MBS ELECTRONIC SYSTEMS GMBH & CO. KG** Gilching, Germany
Remote Full-Stack Developer (Contract via Upwork) Jun 2016 – Jun 2019
 - Developed web based “Field Loadable Software” management tool leveraging Yii2, jQuery and SQL.
 - Researched and implemented new algorithms to manage any Field Loadable Software (ARINC 665).
8. **PHASE3 SOLUTION** Dhaka, Bangladesh
Software Developer Jun 2010 – Aug 2014
 - Tailored a range of databases to precisely align with unique client requirements and preferences.
 - Actively mentored, advised and trained junior developers, fostering their growth and expertise.

RESEARCH PROJECTS

1. **PROJECT 360 - <http://dblab.nkn.uidaho.edu/project360/>** November 2024 – January 2025
 Developed a web-based platform using Python, React.js, and MySQL to manage assignments and tests, offering two modes: tutoring for practice and testing for assessment. Implemented autonomous grading and feedback mechanisms for an enhanced eLearning experience.
2. **FAIRBridge - <http://dblab.nkn.uidaho.edu/fairbridge/>** July 2024 - December 2024
 Developed a cutting-edge information retrieval system to enhance the findability, accessibility, and interoperability of unFAIR datasets through NLQ processing over deep-web databases. Integrated neural

semantic search, automated data extraction, and LLM to facilitate efficient data access without altering the original datasets, supporting the FAIR principles. Built using Python, React.js, MySQL, and LLMs.

3. **SoDa** - <http://dmlab.nkn.uidaho.edu/soda/> July 2024 - December 2024
Developed an intelligent data foraging system enabling biologists to discover and integrate deep-web datasets using natural language queries, automated extraction, and schema matching. Built using Python, React.js, MySQL, and LLMs.
4. **WrapperXSelector** - <https://pypi.org/project/WrapperXSelector> Aug 2023 - Nov 2023
WrapperXSelector is a cutting-edge scraper with user-friendly human interaction. This approach seamlessly combines user input with powerful scraping capabilities. Built using Python.
5. **CRREWBASE** - <https://crrewbase.smartdmlab.org/> Aug 2021 - July 2023
This state-of-the-art gene disease database, featuring a bio-star query generator with an intuitive query builder, enhances accessibility and functionality in genetics research. Its efficient SQL-based data management ensures reliable handling of complex biological data, supporting critical advancements in the scientific community. Built using PHP, JavaScript, and MySQL.

RECENT PUBLICATIONS

1. Kallol Naha, Hasan Jamil. *Ad Hoc Data Foraging in a Life Sciences Community Ecosystem Using SoDa*. **Appl. Sci.** 2025, 15(2), 621. [DOI](#)
2. Kallol Naha, Hasan Jamil. *A Declarative Query Language Enabled Autonomous Deep Web Search Engine (SAC 24)*. [DOI](#)
3. Hasan Jamil, Kallol Naha, and Farjahan Shawon. *An Online Tutoring and Assessment System for Teaching Relational Algebra in Database Classes (ICWL 23)*. [DOI](#)
4. Hasan Jamil, Kallol Naha. *Mapping Strategies for Declarative Queries over Online Heterogeneous Biological Databases for Intelligent Responses (SAC 23)*. [DOI](#)
5. Hasan Jamil, Kallol Naha. *Mapping Declarative Queries to Heterogeneous Biological Databases using Schema Graphs for Intelligent Responses (BDCloud 22)*. [DOI](#)

AWARDS AND ACHIEVEMENTS

1. SIGAPP **Student Travel Award** for ACM Symposium on Applied Computing conference (2024).
2. SIGAPP **Student Travel Award** for ACM Symposium on Applied Computing conference (2023).
3. **Outstanding Graduate Student Nominee** in the University of Idaho, Moscow, Idaho, USA (2023).
4. IEEE ICDH "**Special Promising Work**" Student Project Award (2021).
5. Upwork "**Top Rated Plus**" Freelancer Award (2021)
6. Upwork "**Top Rated**" Freelancer Award (2015).
7. Master Studies **Grant for International Students** in the Universitat Rovira i Virgili, Tarragona, Spain (2014).

INVOLVEMENT

1. Served as a reviewer for the **ACM/SIGAPP** 2024 conference.
2. Served as a reviewer for the **IEEE BDCloud** 2023 conference.
3. Worked as a CP (Program Committee) member for the BLP (co-located with **EMNLP**) 2023 workshop.

MEMBERSHIPS

1. **ACM SIG Student** Membership (since 2022).