

Quantum AI and NLP 2025 Conference

Indiana University at Bloomington, Indiana, USA

Website: <https://qnlp.ai/>

Dates: August 6-8, 2025

Location: IU Memorial Union

Schedule

This is a preliminary schedule and list of keynotes, panels, talks, and posters. The final schedule will be posted and updated on the website.

August 6, 2025

Reception

starting 6 PM, 06 Aug 2025

IU Memorial Union, Tudor Room, 900 E 7th St, Bloomington, IN 47405

August 7, 2025

9 AM – 12 PM Conference and Keynotes

- Monica VanDieren (NVIDIA)

1:30 – 2:30 PM Panel

- Panel on Workforce Development and Higher Education with (Joanna M. Millunchick)

2:30 – 6 PM Conference and Keynotes

7 – 9 PM Special Quantum Rock Event

August 8, 2025

9 am – 12 PM Conference and Keynotes

1:30 – 2:30 PM Panel

2:30 – 6 PM Conference and Keynotes

Keynote Speakers

Dr. Monica VanDieren (NVIDIA)

Sr. Technical Marketing Engineering for Quantum Computing and HPC; Created and launched the [CUDA-Q Academic initiative](#)

Dr. Bob Coecke (Quantinuum)

Chief Scientist @ Quantinuum

Dr. Kharen Musaelian (Qognitive, Inc.)

President and Co-Founder of [Qognitive, Inc.](#) and President/CIO, and Co-Founder of [Duality Group](#)

Dr. Ismael Faro (IBM Quantum)

Vice President of Quantum and AI, IBM

Dr. William Chappell (Microsoft)

Vice President, CTO, Microsoft Strategic Missions and Technologies

Talks

Quantum versus Markov models of bistable perception

Jerome Busemeyer¹, Makiko Yamada², Rong Zheng¹

¹ Indiana University, USA; ² [Riken Center for Brain Research](#), Japan

Incorporating Content-based Features into Quantum Knowledge Graph Embeddings

Jonas Hendl & Michael Faerber

Technical University Dresden, Germany

System Level Intervention for AI-Supported Decision-Making: A Quantum Cognition Perspective

Scott Humr & Mustafa Canan

[Naval Postgraduate School, USA](#)

Quantum-Inspired Attention for Efficient Face Recognition

Aayush Gauba

Southern Illinois University Edwardsville, USA

Quantum Graph Transformer for NLP Sentiment Classification

Shamminuj Aktar¹, Andreas Bärtschi¹, Stephan Eidenbenz¹, Abdel-Hameed A. Badawy²

¹ Los Alamos National Laboratory, USA; ² New Mexico State University, USA

Circuitous: A Possible Exploration of Solving Quantum Circuit Challenges Using Human Natural Language

Mithun Paul

University of Arizona, USA

A quantum semantic framework for natural language processing

Christopher Agostino¹, Quan Le Thien², Molly Apsel², Denizhan Pak², Elina Lesyk³, Ashibari Majumdar⁴

¹ NPC Worldwide; ² Indiana University, USA; ³ Independent Consultant; ⁴ University of Notre Dame, USA

Computational Modeling of Contextuality: Implications to Quantum Cognition

Sahil Imtiyaz & Serafim Rodrigues

Basque Center for Applied Mathematics, Spain

Entanglement-Guided Stochastic Regularization for Robust Deep Learning

Aayush Gauba

Southern Illinois University Edwardsville, USA

An Efficient Quantum Classifier Based on Hamiltonian Representations

Federico Tiblías¹, Anna Schroeder², Yue Zhang³, Mariami Gachechiladze², Iryna Gurevych¹

TU Darmstadt, Germany: ¹ UKP Lab, ² Quantum Computing Group; ³ School of Engineering, Westlake University, China

Compact Quantum Circuits for Martinican Creole LID: A Typologically Informed Proof-of-Concept

Ludovic Mompelat

University of Miami, USA

SA-DQAS: Integrating Differentiable Quantum Architecture Search with Transformers for Enhanced Variational Quantum Algorithms

Yize Sun^{1,2}, Jiarui Liu¹, Zixin Wu¹, Yunpu Ma¹, Volker Trep¹

¹ Ludwig-Maximilians-Universität München, Germany; ² Siemens AG, Germany

Toward an Algebraic Implementation of a Language Faculty

Juan Uriagereka

University of Maryland, USA

Quantum Machine Learning Next-gen wireless: future and path ahead

Shalini L & Srividya Bhat

Sahyadri College of Engineering and Management, India

Enhancing Interpretability of Quantum-Assisted Blockchain Clustering via AI Agent-Based Qualitative Analysis

Yun-Cheng Tsai¹, Yen-Ku Liu¹, Samuel Yen-Chi Chen²

¹ National Taiwan Normal University; ² Wells Fargo

Quantum - Augmented Robust Automatic Speech Recognition

Tapabrata Mondal, Debjit Dhar, Soham Lahiri, Sivaji Bandyopadhyay

Jadavpur University, India

Quantum AI for Ethical Decision-Making in Medical Education

Kliment Chakarovski & Emilija Velinova

FPMI, TU Sofia, Bulgaria

Quantum Curiosity: Quantum Curious Feature Selection

James Graves & Goren Gordon

Indiana University at Bloomington, USA

Quantum NLP model on Natural Language Inference

Ling Sun

Indiana University at Bloomington, USA

Old Wine in New Bottles: Using Classical Word Embeddings in Quantum NLP Systems

Damir Cavar, Koushik Reddy Parukola, James Graves, Shane Sparks

Indiana University at Bloomington, USA

Hypertokens: Holographic Associative Memory in Tokenized LLMs

Christopher Augeri

Sloop

Quantum Recognition Heuristics: A New Direction of Quantum Cognitive Modeling

Jiaqi Huang & Jerome Busemeyer

Indiana University at Bloomington, USA

QCNN-MFND: A Novel Quantum CNN Framework for Multimodal Fake News Detection in Social Media

Arya Suneesh & Balasubramanian Palani

Indian Institute of Information Technology Kottayam, India

Extending the Frontiers of QNLP Beyond English: Grammar-Sensitive Pipeline for Hindi Sentiment Classification Using Compositional Quantum Models

Gautami Naik¹, Rishi Koushik Reddy Thippireddy¹, Naman Srivastava², Parishri Shah¹, Ravi Raj¹, Sunil Saumya¹, Aswath Babu Hanumantharayappa¹

¹ IIIT Dharwad, ² IISc Bangalore, India

Posters

Scientific Literature Assistants

John McNally

Wolfram Research, USA

Hybrid Quantum-Classical Critics in SAC Reinforcement Learning for Wake-Adaptive Swimming and Airfoil Control

Dhanush Shenoy, Ziv Chen, Steven Frankel

Technion, Israel

Beyond Pairs: Generalizing the Quantum Question Equality to Multiple Observables

Michael Schnabel

Vanderbilt University, USA

QPolypNet: A Quantum-Inspired Deep Learning Model for Enhanced Polyp Segmentation

MD Majedul Islam¹, Rashik Shahriar Akash², Jing (Selena) He¹

¹ Kennesaw State University, USA; ² Daffodil International University, Bangladesh

Objective-Free Local Learning & Emergent Language Structure in Thinking Machines

Paul Eugenio

Indiana University at Bloomington, USA

Oscillating Field Perturbation: A Quantum Model of Arousal and Cognitive Control

Jiaqi Huang¹, Joseph Fluegemann², Jonathan Cohen², Jerome Busemeyer¹

¹ Indiana University at Bloomington, USA; ² Princeton University, USA

Quantum AI for Predictive Healthcare: Enhancing Readmission Prediction Accuracy with QML Models

Akshda Shandilya

Globallogic

Circuitous: A Possible Exploration of Quantum Circuit Challenges Using Human Natural Language

Mithun Paul

University of Arizona, USA

Student Posters

TO BE ANNOUNCED