# KRIS(GUANGPENG) WU

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## EDUCATION

**Northeastern University**, Seattle, WA, United States — Jun 2020 - May 2022
Master of Science in Computer Science — GPA: 3.75/4.0
25% Tuition Waiver Scholarship

**Green River College**, Auburn, WA, United States — Mar 2016 - Jun 2020
Bachelor of IT – Software Development — GPA: 3.86/4.0
Graduation as High Honor Student(magna cum laude)
Student Outreach Ambassador, IT Department, 2019

## TECHNICAL SKILLS

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|---|---|
| **Programming Language** | Python, JavaScript, TypeScript |
| **Tools** | Git, Intellij, Colab, Visual Studio Code, postman, Android Studio |
| **Frameworks** | PyTorch, MySQL, FireBase, JDBC |
| **Technologies** | Machine Learning, Artificial Intelligence, Deep Learning, Text Semantic Analysis, Natural Language Understanding, Intent Recognition, Slot Filling, Knowledge Graph, RAG, Multimodal Learning(NLP, CV) |
| **Certifications** | Certified ScrumMaster, Credential ID: 000978383 |

## WORKING EXPERIENCE

**Honorary Co-Founder & Chief Strategic Advisor** — Aug 2024 - Current
Yunlumiv Tech Co.,Ltd — *United States*

- Team Leadership & External Collaboration
  Built and mentored high-performing R&D teams while establishing multi-tier technical talent development programs.
  Spearheaded strategic technical partnerships with external organizations, establishing the company as an industry thought leader.
  Provided expert technical consultation to key clients, delivering strategic solutions and technical advisory services.
- Technical Architecture & AI Implementation
  Architected enterprise-grade AI solutions with modular and scalable technical infrastructure to support business growth.
  Led the optimization and deployment of large-scale NLP models, significantly enhancing model performance and computational efficiency.
  Designed and implemented intelligent Agent systems integrated with Knowledge Graph applications for advanced knowledge mining and utilization.
  Pioneered the implementation of Retrieval-Augmented Generation (RAG) technology in production environments, optimizing real-world business applications.

**NLP Research Fellow in Frontier Technology** Mar 2023 - Jul 2024
TopSec *Beijing, China*

- TopAsk, AI Question-Answering Platform:
  Led the development of TopAsk Product from inception to deployment, an AI-powered platform capable of automatically deploying various models for task transfer across multiple scenarios (including IOC, knowledge vector databases, and general inquiries). The platform accommodates complex user inputs in JSON format, incorporating technologies such as NLU, NLG, and CV, and utilizes several models I developed below.
- Innovation of Multimodal Input Model:
  Developed a model that aligns fused graph and sentence inputs, utilizing Neo4j knowledge graphs for keyword entity extraction and four question recommendations. Established a new vector mapping method for inputs using word alignment and keyword weights, followed by a second fine-tuning, achieving multimodal intent recognition and multiround question-answering. Technologies include multimodal fusion, sentence alignment, intent recognition, and knowledge graphs.
- New Loss Function Calculation Method:
  Designed a novel encoder architecture and a new loss function calculation approach with weighted conditions for various scenarios to train models. Technologies include model architecture and backpropagation.
- Innovation of Intent Recognition Model:
  Pretrained and fine-tuned a model for text2sql and text2API tasks, extracting parameters, labeling, and utilizing vector databases for comparison. Technologies include pretraining, fine-tuning, and text2sql.

**Back-End Developer** Jun 2022 - Dec 2022
Küehne+Nagel *Tarlinn, Estonia*

- Developed UpKeep, an Asset Operations Management Platform which is the mobile-first CMMS, EAM, IIoT suite.
- Using Python, MySQL.

**Graduate Teaching Assistant** May 2021 - Aug 2021
Northeastern University *Seattle, WA, United States*

- 20 hours in office hour per week, for Class CS-5200 Database Management Systems.
- Teaching Class CS 5200 Practical Session part. (Java & MySQL)
- Supported students with their full stack project utilizing MySQL, JDBC and JSP.

**Scrum Master/Project Team Leader** Dec 2019 - May 2020
Gendron Ranch Living History Museum *Seattle, WA, United States*

- Design, deploy, optimize, maintain for Biggest Living History Museum in Washington State using HTML, CSS, JavaScript, Squarespace, GoDaddy and Mail Chimp.
- SEO-optimized which led to google first page by using Washington museum as keyword.
- Website: https://www.gendronranch.org/

## PATENTS

**A Novel End-to-End Model Architecture for Intent Recognition Based on Multimodal IOC Files** Jun 2024
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1st inventor

An end-to-end model architecture for intent recognition based on multimodal IOC files, utilizing advanced techniques like NLP, CNN, MFCC, CRF, RAG, and a unique cross-attention mechanism.

**Text Parameter Extraction Method, Device, and Storage Medium Based on SPO Tuples, Random Forest, and Neural Network Optimization** Mar 2024

1st inventor CN202410607932.6

Discloses a cutting-edge text parameter extraction method, utilizing SPO triples, random forests, and neural network optimization techniques.

**Text Retrieval Method, Device, Computing Equipment, and Machine-Readable Storage Medium** Nov 2023
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1st inventor CN202311765523.0

Discloses a text recall method and apparatus, computing equipment, and machine-readable storage media, focusing on data processing. It employs keyword vectorization and weighted sum techniques to achieve high-accuracy text recall through vector mapping.

**Training Method, Device, and Storage Medium for a Question-Answering Retrieval Model** Nov 2023

1st inventor CN202311457081.3

Offers a training method, device, and storage medium for a question-answering retrieval model, enhancing accuracy through segmented long answer-texts, encoders, adversarial networks, and weighted loss functions.

**A Malicious Office Document Detection Method, Apparatus, and Electronic Device** Jul 2023

2nd inventor CN202311089876.3

Offers a method, device, and electronic equipment for detecting malicious Office documents, enhancing network security through sample image conversion and neural network training, ensuring reliable detection across various document formats.