Li Sheng

Location: Joensuu, Finland

Email : nakuang@student.uef.fi
Mobile : +358-041-576-7973

Last updated: Sep 2025

EDUCATION

Bachelor's Degree Programme in Information Technology (IBPIT)   Joensuu, Finland
University of Eastern Finland (UEF), GPA: 4.35/5 (161/ 180 ECTS, teaching in English)   *Sep 2023 – Jun 2026*

***Upcoming* Erasmus+ Exchange**   Vienna, Austria
University of Vienna   *Feb 2026 – Jun 2026*

RESEARCH EXPERIENCE

Research Intern in Cryptography   COSIC Group, KU Leuven, Belgium
Supervised by Prof.Bart Preneel and Dr.Diane Leblanc-Albarel   *Jun 2025 – Aug 2025*

- **Perceptual Hash Function Analysis**: Investigate the image encryption techniques, specifically, the black-box PhotoDNA algorithm; analyze the hash statistical distribution, and infer the mathematical foundation; evaluate its robustness and weaknesses; identify the underlying patterns; study and compare with other novel perceptual hash algorithms.
- **Collision and Preimage Attacks**: Design and perform attacks on PhotoDNA, including both mathematical transformation and adversarial Machine Learning approaches; successfully manipulate the images to perform second pre-image attacks.
- **Programming Language**: Python

Research Intern in 3D-Reconstruction   Center for Photonics Sciences, UEF
Supervised by Prof.Markku Tukiainen and Dr.Harri Karhu   *Mar 2025 – May 2025*

- **3D Reconstruction Algorithm Analysis**: Comparative review and evaluation of novel 3D reconstruction algorithms, optimizing performance for accuracy and efficiency in medical imaging applications; specifically, investigate the feasibility of conducting such clinical trials using smart devices.
- **Wound Scanning and Accurate Modeling Research**: Test on outperformed scanning application and techniques, design wound scanning workflow to collect accurate data in 3D modeling as a field study; prepare documentations and demonstration videos; improve the process based on the real-world data collection, etc.
- **Programming Language**: Python

Research Intern in Computational Biomedicine   Institute of Biomedicine, UEF
Supervised by Prof.Merja Heinäniemi   *Jun 2024 – Aug 2024*

- **Doublet Detection Tool Analysis**: Literature review for existing tools, evaluate accuracy and reliability of doublet detection tools based on benchmark study datasets and research group's datasets; explore feature importance, and optimize feature combinations to enhance performance in scRNAseq downstream analysis.
- **Exploration Data Analysis**: Explore single cell annotations and predictions in flow cytometry, design and develop Machine Learning and Deep Learning models for cell type classification, optimize loss function and improve the model; explore the underlying patterns in latent matrices.
- **Programming Language**: R and Python

TEACHING EXPERIENCE

***Upcoming* Teaching Assistant for Advanced Deep Learning**   School of Computing, UEF
Given by Prof.Xiaozhi Gao   *Oct 2025 – Dec 2025*

- **Exercise Instruction and Preparation**: Facilitate weekly exercise sessions on neural networks and deep learning using TensorFlow; prepare and develop and maintained exercise material and solutions, ensure reproducibility with `tf.data` pipelines and fixed random seeds.
- **Student Support**: Provide guidance sessions and online forums in answering students queries.

Teaching Assistant for Introduction to Computer Science   School of Computing, UEF
Given by Prof.Matti Tedre and Dr.Erkki Pesonen   *Sep 2025 – Oct 2025*

- **Lead Exercise Sessions**: Led two exercise sessions for international Computer Science and Forestry students.
- **Facilitate Learning**: Guided group discussions and implemented flipped-classroom activities.

Support Instruction: Assisted the instructor with assignment evaluation and responding to course inquiries.

Teaching Assistant for Python and Statistics　　　　　　　　　School of Forest Science, UEF
Funded by Everyone Gives Guidance Project, UEF　　　　　　　　　　　　　*Nov 2024 – Mar 2025*

Design, Organize, and Evaluate Tutoring Models: Hold tutoring meetings for first-year international students in hybrid methods weekly; observe and improve the guidance and peer-group models, summarize successful experience.

Promote Cross-departmental Collaboration: Organized impactful events, including guest speaker sessions featuring industry and academic professionals to foster collaboration and awareness across faculties.

Teaching Assistant for Computer System　　　　　　　　　　　　School of Computing, UEF
Given by Dr.Harri Karhu　　　　　　　　　　　　　　　　　　　　　　*Nov 2024 – Jan 2025*

Evaluate and provide feedbacks for assignments: Support and assist with international group students.

CAMPUS ACTIVITIES

WOFE Project Initiator　　　　　　　　　　　　　　　　　　　　　　　　　　UEF
Short for WOmen and FEmale, for promoting equal opportunities and inclusion, funded by UEF　　*Sep 2024 – Present*

Leadership and Initiatives: Initiated and led the WOFE project application, bringing together like-minded individuals; designed and maintained the WOFE website and project promotion, including logo and poster design.

Plan and Host Community Events: Organized impactful events, including guest speaker sessions featuring industry and academic professionals to foster collaboration and awareness across faculties.

Student Deputy Member, Equality and Equity Committee　　　　University of Eastern Finland
Committee of Equality and Non-discrimination　　　　　　　　　　　　　*Feb 2025 – Dec 2025*

Academic Year Information Market: Participated in organizing the new student information market, focusing on equality, equity, and inclusivity, *Sep 2025.*

Invited Talk: Presented as Student Representative at UEF Equality and Equity Day, *Mar 2025.*

Shaking Up Tech: Contributed to organizing the Shaking Up Tech event in Helsinki, aimed at encouraging high school female students to pursue STEM studies, *Jan 2025.*

Student Deputy Member of the Faculty Council　　　　　　　　　　　　　　　　UEF
Faculty of Sciences, Forestry, and Technology, UEF　　　　　　　　　　　*Mar 2024 – Dec 2025*

PROGRAMMING LANGUAGES AND TOOLS

Programming Languages: Python, R, Java, SQL, HTML, CSS, Javascript, LATEX

Tools: R Studio, VScode, MySQL, Linux, Jupyter Notebook, Colab, Git