Xu Shuyao

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🎓 Education

National University of Singapore (NUS), Singapore   Aug 2022 – Present
Bachelor of Computing in Computer Science (with Honours)
Second major in Statistics **GPA**: 4.8/5.0

Stanford University, USA   Jun 2023 – Aug 2023
Summer Quarter
International Honors Program **GPA**: 4.15/4.0

👥 Project Experience

GLOW.ai @ NUS   July 2024 – Present
Undergraduate Researcher   Advisor: Professor Bryan Low

- Conducting research on the structural pruning of Large Language Models. Responsible for methods formulation and implementation, experiments.
- Proposed novel pruning strategies that aim to outperform state-of-the-art. Ablation studies on-going.

MarkBind   GitHub Project Link   January 2024 – Present
Mentor / Developer   Advisor: Professor Damith C. Rajapakse

- MarkBind is a static site generator based on Markdown syntax. In maintenance, it requires new features to enhance user experience. I am responsible for enhancing table filtering and sorting, mermaid diagram support, global search support, and automatic line wrapping for code blocks.
- Wrote over 8k lines of code using TypeScript, Node.js, and Vue, and utilized tools like Webpack, Eslint, Jest for development. Implemented continuous integration and deployment through GitHub, improving team collaboration and code review. Successfully added new features, significantly enhancing the user experience of MarkBind, and received positive feedback from users.

⚙ Professional Skills

- **Programming:** Python, Java, C. Familiar with LaTeX and Shell Scripting.
- **Machine Learning Theory and Practice:** Proficient in statistical learning (linear models, kernel methods, convex optimization, PAC learning...). Familiar with recent deep learning models (VAEs, Berts, GPTs, ViTs...) and training practices. Familiar with PyTorch, HuggingFace Transformers...
- **NLP / LLM:** Familiar with regex, tokenizers, architectures of GPTs, full pipeline of pretraining, finetuning, alignment, agent prompting, evaluation. Proficient in model compressing via pruning and distillation.

♡ Teaching

- **Tutor** for CS2103/T Software Engineering, responsible for hosting tutorial sessions and grading

📖 Courses

- Deep Learning Specialization (Coursera), 2023
- **NUS Courses** (incl. ongoing courses): **Graduate level**: CS4243 Computer Vision, ST4234 Bayesian Statistics, MA4270 Data Modelling and Computation, **Undergraduate level**: Probability and Statistics (A+), Discrete Structures (A+), Calculus for Computing (A+), Programming Methodology (A+), Database Systems (A+), Data Structure and Algorithms (A), Numerical Analysis (A)...
- **Stanford Courses**: CS148: Introduction to Computer Graphics and Imaging (A+), CS221: Artificial Intelligence: Principles and Techniques (A)