Yuwei Yin - *Curriculum Vitae*

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EDUCATION

- **Beihang University (BUAA)** — Haidian, Beijing, China
  Intelligent Information Process Institute, School of Computer Science and Engineering — *Sep. 2018 – Sep. 2021*
  GPA: 91.7/100; Rank 3rd of 80 (Graduate Course Only, No Degree Expected)

- **Beijing Information Science and Technology University (BISTU)** — Chaoyang, Beijing, China
  B.Eng. in Computer Science and Technology (Artificial Intelligence Track) — *Sep. 2014 – Jun. 2018*
  GPA: 92.7/100; Rank 1st of 202 (The last three years: 95.4/100) (Transcript)

- **Chengdu Shude High School (SDZX)** — Chengdu, Sichuan, China
  Rank 1% in Sichuan Gaokao (National College Entrance Examination, NCEE) — *Sep. 2011 – Jun. 2014*

RESEARCH EXPERIENCE

- **The University of Hong Kong** — Hong Kong SAR
  <u>*Research Assistant (Funded Project) (Full-time)*</u> — *Sep. 2022 – Aug. 2023 (Present)*
  - **Affiliation**: HKU NLP Group, Department of Computer Science.
  - **Duty**: Leading the research on financial fraud analysis based on graph neural networks. **Supervisor**: Qi Liu.

- **Microsoft** — Beijing, China
  <u>*Research Intern (Stars of Tomorrow Internship Program) (Full-time)*</u> — *Nov. 2020 – Sep. 2021*
  - **Affiliation**: Natural Language Computing (NLC) Group, Microsoft Research (Asia).
  - **Duty**: Researched multilingual neural machine translation [$C1$-$C5$,$J2$]. **Mentor**: Shuming Ma.

- **Beihang University** — Beijing, China
  <u>*Graduate Research Assistant (Funded Project) (Part-time)*</u> — *Sep. 2018 – Jun. 2019*
  - **Affiliation**: Intelligent Information Process Institute, School of Computer Science and Engineering.
  - **Duty**: Developed a data mining and web system (Vue.js & Django) (EDMS). **Supervisor**: Xiaoming Zhang.

- **Chinese Academy of Sciences** — Beijing, China
  <u>*Research Intern (Talent Cultivation Program) (Full-time)*</u> — *Sep. 2017 – Jun. 2018*
  - **Affiliation**: Trusted Computing and Information Assurance (TCA) Group, Institute of Software.
  - **Duty**: Developed a privacy-protected system (Android & Web). **Advisor**: Zhenfeng Zhang, Chengxia Liu.

- **Beijing Information Science and Technology University** — Beijing, China
  <u>*Undergraduate Research Assistant (National-level Innovation Project) (Part-time)*</u> — *Sep. 2015 – Dec. 2016*
  - **Affiliation**: Computer Science and Technology Department, Computer School.
  - **Duty**: Developed a smart band system (software & hardware) [$J1$]. **Supervisor**: Xuping Ma.

PUBLICATIONS

Research Interests: Natural Language Understanding & Generation, Multilingual NLP, Interpretable NLP
(* indicates equal contribution)

CONFERENCE PROCEEDINGS

- [$C5$] ***CROP: Zero-shot Cross-lingual Named Entity Recognition with Multilingual Labeled Sequence Translation***
  Jian Yang, Shaohan Huang, Shuming Ma, <u>Yuwei Yin</u>, Li Dong, Dongdong Zhang, Hongcheng Guo, Zhoujun Li, Furu Wei
  Acceptance in *EMNLP 2022* (Dec 2022) ‖ arXiv 2210.07022 ‖ Code

- [$C4$] ***UM4: Unified Multilingual Multiple Teacher-Student Model for Zero-Resource Neural Machine Translation***
  Jian Yang*, <u>Yuwei Yin</u>*, Shuming Ma, Dongdong Zhang, Shuangzhi Wu, Hongcheng Guo, Zhoujun Li, Furu Wei
  IJCAI-ECAI 2022 (Jul 2022) ‖ arXiv 2207.04900 ‖ Code

- [$C3$] ***HLT-MT: High-resource Language-specific Training for Multilingual Neural Machine Translation***
  Jian Yang, <u>Yuwei Yin</u>, Shuming Ma, Dongdong Zhang, Zhoujun Li, Furu Wei
  IJCAI-EACI 2022 (Jul 2022) ‖ arXiv 2207.04906 ‖ Code

- [$C2$] ***Improving Multilingual Neural Machine Translation with Auxiliary Source Languages***
  Weijia Xu, <u>Yuwei Yin</u>, Shuming Ma, Dongdong Zhang, Haoyang Huang
  EMNLP 2021 Findings (Nov 2021) ‖ Code

- [$C1$] ***Multilingual Agreement for Multilingual Neural Machine Translation***
  Jian Yang, <u>Yuwei Yin</u>, Shuming Ma, Haoyang Huang, Dongdong Zhang, Zhoujun Li, Furu Wei
  ACL-IJCNLP 2021 (Aug 2021) ‖ Code

JOURNAL ARTICLES

- [$J2$] ***GTrans: Grouping and Fusing Transformer Layers for Neural Machine Translation***
  Jian Yang, <u>Yuwei Yin</u>, Shuming Ma, Haoyang Huang, Dongdong Zhang, Furu Wei and Zhoujun Li
  IEEE T-ASLP (Nov 2022) ‖ arXiv 2207.14467 ‖ Code

- [$J1$] ***Design and Implementation of Smart Band System***
  Xuping Ma, Jiahao Cai, <u>Yuwei Yin</u>, Shangsu Ding
  Computer Knowledge and Technology (Dec 2016)

Under Review

- [U2] Idea: put forth a novel GAN-style model for encoder-decoder pretraining
  Under review in *ACL 2023: The 61st Annual Meeting of the Association for Computational Linguistics*
- [U1] Idea: propose to select relevant context to boost document-level neural machine translation
  Under review in *DASFAA 2023: The 28th International Conference on Database Systems for Advanced Applications*

Ongoing Research

- [O3] generating synthetic text and images using diffusion models and prompting method for multimodal tasks
- [O2] building a comprehensive benchmark for financial fraud analysis based on machine learning and graph mining
- [O1] building a multimodal neural machine translation model using both text and image information

Academic Service

Peer Review

- Journal Articles
  - IEEE Transactions on Audio, Speech, and Language Processing (T-ASLP) *2022*

Research Mentorship

- Mentored Master's students at Beihang University *2020 – 2021*
  - Caijun Bao: "Composite Aspect-based Sentiment Analysis Technology Based on Deep Learning"
  - Xinxin Song: "Sequential Recommendation Algorithm Based on Self-Supervised Learning"
  - Yuling Deng: "Two-stage Algorithm of Machine Reading Comprehension Based on Extraction and Matching"

Teaching Experience

- Teaching Assistant
  - *Discrete Mathematics*, School of Computer Science and Engineering, Beihang University *Fall 2019*

Honors and Awards

Scholarships

- China National Scholarship   (top 1%, National level) *Nov. 2016 & Nov. 2017*
- Excellent Academic Scholarship   (top 10%, University level) *Jan. 2016 & Jan. 2017 & Jan. 2018*
- Research and Innovative Scholarship   (University level) *Jan. 2016 & Jan. 2017*
- Social Contribution Scholarship   (University level) (volunteer services for 200+ hours) *Jan. 2017 & Jan. 2018*

Awards

- Beijing Outstanding Graduate Award   (top 5%, Provincial level) *Jul. 2018*
- Outstanding Graduate Award   (top 5%, University level) *Jul. 2018*
- Diligent Study & Research Pioneer Award   (top 3%, University level) *Dec. 2017*

Prizes

- 1st Prize in The 32nd National Physics Competition, Beijing District   (top 5%, Provincial level) *Dec. 2015*
- 1st Prize in The 9th Mathematics Competition   (top 5%, University level) *Jun. 2015*

Technical Skills

- **Programming Languages**: Python, C/C++, Java, JavaScript, HTML & CSS, PHP, Bash, SQL
- **Toolkits & Libraries**: PyTorch, TensorFlow, Keras, Fairseq, scikit-learn, NLTK, CoreNLP, PyG
- **Data Analysis**: NumPy, pandas, Matplotlib, t-SNE, Requests, Beautiful Soup, Scrapy Crawler
- **System Development**: Vue.js, Django, Flask, Node.js, Java Web, Android SDK, MySQL, SQLite
- **Office Software**: LaTeX, Markdown, Word, PowerPoint, Excel, Visio, Mind Map, UML Modeling

Miscellaneous

- **Languages**: Mandarin (native), English (fluent), French & German & Japanese (elementary)
- **Interests**: Philosophy, Mathematics, Physics, Cosmology, Literature, Polyglot, Soccer, Calisthenics
- **Motto**: Wir müssen wissen, wir werden wissen! – David Hilbert, 1930