Bowen Gu

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EDUCATION

Harvard University, T.H. Chan School of Public Health — Boston, MA
Master of Science in Health Data Science; GPA: 4.00 — *Aug. 2022 – May. 2024 (Expected)*
Relevant courses: Artificial Intelligence (MIT), Data science programming in R, Statistical inference,

University of North Carolina at Chapel Hill — Chapel Hill, NC
Bachelor of Science in Computer Science & Physics – Astrophysics Option; GPA: 3.99 — *Aug. 2018 – May 2022*
Relevant courses: Algorithms, Computer organization, Computer security, Databases, Data structures, Distributed system, Object-oriented programming, Programming languages

PROGRAMMING SKILLS

- **Languages**: C, C++, Java, Lisp, MySQL, Prolog, Python, R, SML, TypeScript
- **Technologies**: BERT, Docker, Git, GPT-3, Jupyter notebook, Keras, Latex, RStudio, Scikit-Learn, Spark, Tensorflow

RELEVANT EXPERIENCE

- **Harvard University** — Boston, MA

  Project: 2024 Presidential Election Prediction: *Aug 2022- Dec 2022*
  - Predicted how many electoral votes will Joe Biden win in the 2024 presidential election if he and Donald Trump are the candidates for Democrat and Republican respectively for the second time.
  - Composed a project report, created a GitHub website and a GitHub repository which includes the code and the results.

  Project: Compare Estimators Originated from Real-Wrold Problems: *Aug 2022- Dec 2022*
  - Compared the performance of different estimators from a model generated in terms of a real-world problem.
  - Collaborated on team of 3, composed a project report, created a GitHub repository which includes the code and the results.

- **University of North Carolina at Chapel Hill** — Chapel Hill, NC

  Project: Towards a Comprehensive AI Teaching Assistant Based on Course Forums: *Aug 2020 - May 2022*
  - Used neural networks, word embedding, IBM Watson natural language understanding API, and Keras deep learning API to build the kernel of the AITA that helps classify forum posts and detect forum post questions that are duplicate or incomplete.
  - Achieved an average accuracy of 95% on the model, collaborated on team of 3, led 95% of work, composed an honor thesis, held a thesis defense, and published the work on the Carolina Digital Repository.

  Project: Automating Testing of Visual Observed Concurrency: *Aug 2020 - May 2022*
  - Developed a new testing-based framework using Java to provide both a grading management and automation system for evaluating the concurrency requirements of assignments implemented in Java.
  - Collaborated on team of 6, and published a paper on The 3rd Workshop on Education for High Performance Computing.

  Project: Broad Awareness of Unseen Work on a Concurrency-based Assignment: *Aug 2020 - May 2022*
  - Used different technologies to record events related to work on a Java assignment that exercised threads, synchronization, and coordination and provided preliminary answers to questions about the unseen work behind the concurrency aspects of the assignment.
  - Collaborated on team of 6 and published a paper on The Workshop on Education for High Performance Computing.

  Project: The Role of Activity & Youth on the M_KS-M_* Relation: *Aug 2020 - May 2022*
  - Measured rotation periods and S indices of 143 binaries, fitted the position of the binaries using Monte Carlo Markov Chain (MCMC), and colored the HR diagram using rotation periods, H-alpha lines, and S indices using Python.
  - Collaborated on team of 7, participated in writing the paper about this work which will be published on American Astronomical Society Journal and presented at the UNC research symposium by the end of the semester.

PUBLICATIONS

- **Bowen Gu**, Hao Wang, and Kaizhuo Chen, "**Towards a Comprehensive AI Teaching Assistant Based on Course Forum**", Published on Carolina Digital Repository.
- Prasun Dewan, Samuel George, **Bowen Gu**, Zhizhou Liu, Hao Wang, and Andrew Wortas, "**Broad Awareness of Unseen Work on a Concurrency-based Assignment**", Published on The 3rd Workshop on Education for High Performance Computing (EduHiPC 2021).
- Prasun Dewan, Andrew Wortas, Ken Liu, Sam George, **Bowen Gu**, and Hao Wang, "**Automating Testing of Visual Observed Concurrency**", Published on Workshop on Education for High Performance Computing.