

Kevin Wang

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EDUCATION

University of Pennsylvania | Philadelphia, PA

College of Arts and Sciences

August 2020 – May 2024

- Bachelor of Arts in Computer Science | Bachelor of Arts in Psychology
- *Cumulative G.P.A.*: 3.83/4.0

School of Engineering and Applied Science

August 2024 – May 2025

- Master of Science in Computer and Information Science
- *Cumulative G.P.A.*: 3.85/4.0

Honors: Dean's List – 2021-2022/2022-2023 Academic Years, Psi Chi International Honor Society in Psychology Board

TECHNICAL SKILLS

Technical: C/C++, Java, Python, JavaScript, React, NodeJS, SQL, AWS, Apache Spark, Unix, Git, Docker, OCaml, FORTRAN.

Additional Skills: Scalable Systems, High-Performance Computing, OpenMP, MPI, Markov Chains, Parallel Computing.

PROFESSIONAL EXPERIENCE

Children's Hospital of Philadelphia, *Backend Developer* | Philadelphia, PA

June 2023 – present

- Led the development of a secure Python FastAPI application, streamlining data input for Autism research ML models.
- Integrated JSON Web Token (JWT) based authentication, fostering collaboration with domain experts to align technical solutions with research needs and drive advancements in Autism research.
- **Tech Stack**: Python, MongoDB, FastAPI, JWT authentication, Git

Berkadia, *Data Architecture Intern* | Ambler, PA

June 2023 – August 2023

- Implemented over 10 container-based features within an event-based architecture, such as end-to-end permission management, knex database schema migration, and contract downloading.
- Developed new features for two real-time account management and traffic monitoring microservices to support the company's global data infrastructure, used by hundreds of clients worldwide.
- Worked in a scrum team of senior architects and vice presidents using Agile Methodology for daily R&D development.
- **Tech Stack**: NodeJS, PUG.js, Git, Postman, React, SQL, Amazon EC2, Amazon Kubernetes Service, Docker, Python

Oak Ridge National Laboratory, *Pathways to Computing Intern* | Oak Ridge, TN

June 2022 – August 2022

- Increased computational efficiency by over a factor of 15 on the supercomputers Frontier and Summit using C/C++.
- Improved matrix multiplication speed using parallelization and efficiency tools within a shell-scripting environment.
- Used C to simulate the pressure within 2D/3D core-collapse supernovae using an astrophysics simulator and visualizer.
- **Tech Stack**: C/C++, Java, OpenMP, MPI, CUDA, AMD-HIP, FORTRAN

PROJECTS

Matcha Social Media Web App

- Designed and programmed a functional full-stack Facebook-based social media site, with news article recommendations, chatrooms, posting, friends, and encrypted data storage within a team.
- Recommended news articles according to adsorption, using RDDs and MapReduce-based Apache Spark functions.
- Implemented multi-user chatrooms such that the messages stayed visible for users after exiting, kept user account data securely stored in the cloud using SHA-encryption, and designed the front-end for the website.
- **Tech Stack**: JavaScript, Java, HTML, DynamoDB, Bootstrap, CSS, PUG, Apache Spark, AJAX, JQuery

Multilingual COVID-19 Mood and Sentiment Predictor on Twitter Using Zero-Shot Modeling

- Led a team in using Zero-Shot Modeling techniques on a Kaggle dataset of multilingual Twitter tweets regarding COVID-19 to analyze sentiment and predict emotions like hopelessness or sadness across multiple languages.
- Visualized the models and data using techniques like Ridge plots and correlation heatmaps to get baseline sentiment and multicollinearity for achieving better accuracy and guiding the project's direction.
- Achieved a metric of roughly 0.6 accuracy for the model across multiple languages, showing a strong baseline model that predicts COVID-related Twitter sentiment to improve upon for future multilingual analysis.
- **Tech Stack**: Python, Pandas, Matplotlib, Recurrent Neural Networks, Long Short-Term Memory Architecture.

EXTRACURRICULAR & PROJECT LEADERSHIP

Smoky Mountain Data Challenge: Supercomputer Modeling, *Co-author* | Oak Ridge, TN

June 2022 – August 2022

- Co-authored *Solution to SMDC Challenge 2022*, winning Best Student Paper at the Smoky Mountain Data Challenge.
- Developed code in Java to parse and convert over 51 million lines of supercomputer usage data to temporal reports.
- Analyzed 2-year usage trends, investigating unexpected patterns in supercomputer loads before and during Covid-19.