Alex Kim

(703)380-5515 | alexjoonkim02@gmail.com | Ashburn, VA 20147 | Washington, DC 20005
LinkedIn: https://www.linkedin.com/in/alex-kim-917bb81a5 | GitHub: https://github.com/ajk3158 | Portfolio: https://aboutalexkim.github.io/

PROFESSIONAL EXPERIENCE

CoStar Group   **Arlington, VA**
Software Engineer   *July 2024-Present*
- Leading the end-to-end development of a key data entity used in new services for a high-revenue product, owning everything such as data architecture, database & backend implementation, ongoing data maintenance, cross-functional coordination with client-facing teams, unit and integration software testing (achieving 100% test coverage for production-ready code)
- Improved system efficiency and reliability by leveraging design patterns such as Builder and Decorator and agile principles
- Authored and contributed to system architecture documentation, developer guides, and internal software infrastructure wikis to enhance code maintainability, empower team collaboration and knowledge, and improve efficiency of team onboarding

MITRE   **McLean, VA**
*Software Engineering Intern (**Clearance**: Active Final Secret DoD Security Clearance)*   *May 2023-Dec 2023*
- Led design and creation of a **generative AI text model** (Variational Auto Encoder, Seq2Seq architecture, LSTM) to address training data scarcity, doubling the dataset size and significantly improving the PHIAI model accuracy by 15%
- Developed and optimized a new ML model for the Potential Hazard Identification via AI (PHIAI) algorithm, which delivered 95% prediction accuracy and improved the system's effectiveness by 8% over prior versions
- Collaborated with client-facing teams to integrate PHIAI algorithm into high traffic web app to ensure seamless functionality

Red Edge, LLC   **Arlington, VA**
Web Development Intern   *May 2022-Aug 2022*
- Independently developed a **web-based advertising analytics dashboard** for Red Edge's advertising team leveraging Laravel, React, PHP, JavaScript, and API integration to modernize Red Edge's legacy advertisement reporting visualizations
- Developed scalable full-stack web applications for high-impact political clients and internal teams through effective technical communication and adaptability, owning ongoing maintenance, design, and development of each project simultaneously

UVA Development Hub   **Charlottesville, VA**
Software Development Intern   *Aug 2021-May 2022*
- Collaborated within an agile development software team to build a web application informing UVA students and visitors about grounds. Owned the design and development of the app's homepage UI using HTML, JavaScript, and Bootstrap
- Delivered creative software solutions for client and university needs by actively understanding user and stakeholder needs

EDUCATION / SKILLS

University of Virginia, Charlottesville, VA   *May 2024*
*Bachelor of Science in Computer Science | Minor in Engineering Business | **GPA:** 3.68/4.00 | **Honors:** High Distinction*
Relevant Coursework: Theory of Computation, Algorithms, Machine Learning, Software Testing, Databases, Operating Systems, New Product Development, Artificial Intelligence, PL for Web Applications, Statistics
Programming Languages: C++, C#, Python, Java, JavaScript, HTML, CSS, PHP, SQL
Frameworks/Technologies: React, Azure DevOps, Docker, Git, TFS, Postman, .NET, Figma, Datadog, PyTorch, Pandas, Scikit Learn, OpenAI Gym, TensorFlow, Keras, Flask
Specialized Skills: Full Stack & Backend Development, Database Management, Machine Learning, Deep Learning, Reinforcement Learning, Neural Networks, Natural Language Processing (NLP), Data Science, API Development & Integration, Design Patterns

PROJECTS

- Created an **AI agent** designed around Reinforcement Learning, Deep Q-Learning, PyTorch, OpenAI Gym, and Python libraries to master the retro arcade game "Snake", learning optimal movements and maximizing cumulative rewards. 2024
- Independently developing **nutrition-focused web application to assist athletes** on making informed dieting decisions through dynamic food recommendation algorithm and full-stack technology including React and PostgreSQL. 2023-Present
- Led hackathon team in **MITRE's Data Science Hackathon** to design, develop, and present a stacking classifier-based ML algorithm which detected phishing links, reaching a 97% accuracy rate and exhibiting top-ranking performance. 2023
- Built and tuned a **Home Collateral Estimation ML Model for banks** to apply in daily financial operations using regression ML models, cleaning data, and hyper tuning the model. Documented progress & achievements on Technical Report. 2022
- Served as **Scrum Master** to create an Agile developed full-stack web application that provides users the ability to create/coordinate movie watch parties in a social media format. Utilized Django, MVC Frameworks, & technical APIs. 2022

LEADERSHIP / HOBBIES

CoStar Group "Star Partner" Mentor Program   **Arlington, VA**
Software Engineer New Hire Mentor   *July 2025-Present*
- Delivering technical guidance on backend development workflows, codebase architecture, and effective software design
- Authored a comprehensive internal guide for new hires covering core company systems, how-to articles, and best practices
Hobbies: Marathon / Endurance Event Athlete, Weightlifting, Language Learning (Korean), Sewing/Tailoring, Photoshop, Cooking