

ARK DUTT

+1 (608) 960-5020 | arksdutt@gmail.com | arkdutt.com | GitHub | LinkedIn

EDUCATION

Bachelor of Science in Computer Science and Data Science

University of Wisconsin-Madison | Minor in Economic Analytics

August 2021 - May 2025

TECHNICAL SKILLS

Programming Languages: Java, Python, R, C/C++, SQL, TypeScript, HTML/CSS, JavaScript, Swift

Frameworks/Libraries: Pandas, NumPy, Flask, Keras, TensorFlow, PyTorch, Next.js, React.js, Angular.js, .NET, MindAR

Databases and Tools: MySQL, MongoDB, PostgreSQL, Docker, Kubernetes, GitHub, Postman, Nginx

Concepts/Skills: Data Structures & Algorithms, Full Stack Development, REST APIs, Microservices, Web Security

Relevant Coursework: Computer Architecture, Discrete Math, Linear Algebra, Parallel & Throughput Programming

WORK EXPERIENCE

Fullstack Developer | Mountain House Media, Rochester, NY

August 2025 – Present

- Engineered **full-stack features** for a SaaS platform designed to help **creative professionals in media production** manage and track their ongoing projects, using **Next.js, Node.js, Express, and Python**; improved workflow efficiency by an estimated **30%**.
- Led the integration of **Generative AI capabilities**—including image and video generation, background removal, and upscaling—by developing and optimizing **Python-based microservices and APIs**, enhancing user productivity by **15%**.
- Collaborated with stakeholders** to define technical requirements, prioritize feature roadmaps, and mitigate delivery risks, ensuring the platform's development aligned with user needs and creative workflows.

Software Developer | Wisconsin Center for Education Research, Madison, WI

February 2024 - June 2025

- Enhanced an educational platform using **C#, .NET, and SQL Server**, increasing satisfaction scores by **20%** and automating the scoring of **100+ tests daily**, reducing data processing time by **30%**.
- Worked with 6 team members to streamline database management and reporting workflows with **AWS-backed solutions, enabling real-time access to 500+ records**, improving data accuracy and decision-making.
- Coordinated with stakeholders including developers, designers, and researchers to determine project requirements

Fullstack Developer | PBS Wisconsin, Madison, WI

September 2024 - January 2025

- Led a team of **5 developers** to build and deploy an AR app using **React.js, Flask, MySQL, and MindAR**, integrating **300+ historical portraits** and increasing user engagement by **20%** with a seamless 3D experience.
- Coordinated feature requirements with internal stakeholders** and translated them into technical specifications, ensuring alignment with organizational goals and maintaining **99.9% uptime** across platforms.

Machine Learning Researcher | Informatics Skunkworks, Madison, WI

September 2024 - January 2025

- Built deep learning pipelines for processing **124+ RCC CT images** with **Python, PyTorch, and TensorFlow**, achieving a **5-10% improvement in AUC scores** and uncovering intra-patient similarities for predictive accuracy.
- Conducted **SHAP analysis** and hyperparameter tuning with **GridSearchCV**, improving model accuracy by up to **12%** over **ResNet101**, refining interpretability and decision-making for tumor classification.

Software Engineering Intern | TrustedNation, Chicago, IL

May 2023 - August 2023

- Gathered requirements from internal teams** to redesign corporate website using Next.js, improving frontend performance by **25%** and streamlining user experience for **200+ monthly users**.
- Communicated technical trade-offs** and migration strategies across teams, **reducing latency by 30%** while ensuring project goals were met.

Student Technology Trainer | Software Training for Students, Madison, WI

November 2022 - January 2024

- Conducted over **100+ interactive workshops and individual sessions** on **Python, R, HTML, CSS, and JavaScript**, training **300+ students** and improving technical skill mastery rates by **75%** through practical, hands-on learning.
- Achieved an outstanding average instructor rating of **4.80/5** by delivering engaging, high-quality training sessions and creating comprehensive manuals, increasing course completion rates by **30%**.

PROJECTS

SpeakStudy | Headstarter AI Hackathon Finalist | Node.js, Express, LLM, APIs

August 2024

- Developed an **AI-powered website** with **Node.js/Express**, integrating **Gemini Pro 1.5 (LLM)** and **IBM Watson APIs**, handling **1000 interactions/month**.
- Enhanced learning accessibility by creating an **LLM-based interactive tool**, improving user engagement by **40%** and increasing retention by **30%**, fostering deeper learning outcomes.

HealthyIt | Java, Algorithms, OOP, Data Structures

March 2023

- Built a **Java application** for users to search **Reddit posts** by keyword, optimizing the search algorithm to reduce retrieval time by **30%** and enhance accuracy, delivering faster results.
- Developed backend functionality to retrieve **20+ posts/day** matching user queries, improving search relevance by **40%** and reducing server load by **20%**, ensuring better scalability.

CERTIFICATIONS

- AWS Certified Cloud Practitioner, **AWS**
- AWS Certified Solutions Architect, **AWS**
- Machine Learning Specialization by DeepLearning.AI,