Kshitij Vashisth

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EDUCATION

University of Bristol **Bristol, United Kingdom**
MSc Scientific Computing with Data Science *Sep 2023- Nov 2024*
Focal Areas: Software development for research, Data Science, Machine Learning *Pass with Merit*

SKILLS

Programming Languages: Python, C/C++, C#, Bash, JavaScript, HTML, CSS, SQL, TypeScript
Tools/Techniques: Git, Next.js, React.js, Node.js, Express.js, MongoDB, Prisma, Flask, Containerisation (Docker), PyTest
Data Science and ML: Pandas, MatPlotLib, Scikit-Learn, PyTorch, TensorFlow, Predictive Modelling, Statistical Analysis

WORK EXPERIENCE

GloNeuro
Full Stack Engineer | AI/ML Developer *Dec 2023 –Current*
- Developed full-stack web features using React/Next.js (Vite) and Node.js, supporting GloNeuro's educational and research platforms.
- Built and deployed Flask APIs to serve AI/ML models powering personalized content recommendations and interactive learning tools.
- Designed RESTful APIs and integrated MongoDB and SQL databases for scalable storage of research articles, podcasts, and user data.
- Automated CI/CD workflows with GitHub Actions, streamlining deployment and improving reliability across projects.
- Enhanced security and user experience with JWT-based auth, SSR pages in Next.js, and performance tuning across the stack.
- Collaborated with cross-functional teams to ship features for tools like NeuroFlix, AxonPods, and NeuroSphere.

GloNeuro
Researcher, Writer *Jan 2022 – Dec 2023*
- Synthesized complex neuroscience concepts, debunked sleep myths, and analysed studies, boosting publication acceptance by 20%, reader engagement by 30%, and citations by 25%.

Jax Foundation
National Volunteer *Aug 2022 - Oct 2022*
- Created personalized lesson plans, used innovative teaching methods, and collaborated with local organizations to improve academic performance by 15% and provide educational resources to underserved communities.

PROJECTS

File Zipper Software **Clifton, Bristol**
- Built a C++ app for file and folder compression using STL and <filesystem> library.
- Implemented directory traversal and Huffman coding algorithm for up to 70% file size reduction.
- Enabled user-specified paths for compression and designed decompression to restore original structure.

Discovery of new materials for solar cells using ML (group project) **Clifton, Bristol**
Link to ePortfolio *Sep 2023 – Apr 2024*
- Led a team to develop a Machine Learning model to predict solar cell materials with 71% accuracy and a 0.615 F1-score.
- Deployed the web application using Flask on the backend, with hosting via Render and version control through GitHub.
- Developed a responsive frontend using HTML, CSS, JavaScript, and Bootstrap, enhancing user experience.

ATLAS cloud analysis **Clifton, Bristol**
Link to Project *Mar 2024 – Apr 2024*
- Designed and implemented Docker containers for CERN Atlas Experiment, reducing data processing time by 50% and enabling consistent development environments.
- Utilised RabbitMQ for real-time data transmission and Docker Swarm for scalable deployment, improving resource utilisation by 40%.
- Automated the workflow with timestamped plotting and data saving features, enhancing analysis accuracy by 30% and system reliability through continuous integration practices.