

# Bin Hu

SENIOR SOFTWARE ENGINEER

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*"Be the change that you want to see in the world."*

## Summary

Senior Software Engineer with over 18 years of hands-on experience across full-stack development, cloud infrastructure, and system integration. I specialize in building robust, scalable applications and automating deployment pipelines using modern DevOps tools and practices. A long-time Vim enthusiast, I enjoy working in terminal-based environments and continuously refine my toolchain to boost efficiency and focus.

I'm passionate about solving complex technical challenges and constantly exploring new technologies and development techniques. While my primary focus remains software engineering, I'm increasingly contributing to architectural discussions and system design, aiming to grow into broader technical leadership over time.

## Work Experience

### Fugro Marine Australia

*Perth, WA, Australia*

SENIOR INNOVATION ENGINEER

*June 2006 - Dec. 2020*

- **Architected and delivered a low-latency (6s) real-time video streaming platform** for remote ROV seabed pipeline inspections, leveraging **AWS Elemental (MediaLive, MediaStore), CloudFront (signed cookies), React/Material UI, and a TypeScript/DynamoDB user management backend**. Spearheaded CI/CD automation via AWS CDK.
- **Led architectural design and development** for critical global systems, including a geo-data exchange and logistics platform for USVs and a scalable marine vessel daily progress reporting system (serverless).
- **Spearheaded modernization initiatives**, transitioning monolithic systems to service-oriented architectures and designing core UI frameworks for next-generation software suites.
- **Drove automation and infrastructure excellence** by implementing fully automated CI/CD pipelines (GitHub Actions, Jenkins, AWS CDK, Terraform) and provisioning high-availability, auto-scaling, fault-tolerant infrastructure using Docker, Kubernetes (ECS/Fargate), and IaC.
- **Innovated with emerging technologies**, developing a cloud-hosted, automated multibeam data classification system leveraging Machine Learning and building real-time multibeam data acquisition systems.
- **Key Technologies:** AWS (EC2, S3, RDS, Lambda, API Gateway, CloudFront, Elemental, DynamoDB, ECR, ECS, Fargate), Docker, Kubernetes, Terraform, CloudFormation, Jenkins, GitHub Actions, TypeScript, React, .NET Core, C#, Python, Julia, Auth0.

## Education

### UNSW(The University of New South Wales)

*Sydney, NSW, Australia*

B.E. IN SOFTWARE ENGINEERING

*Feb. 2002 - Dec. 2005*

- Achieved Honours Class 2 Division 2.