Humayun Khan Pathan

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Professional Summary:

- 14 years of expertise in delivering robust and scalable .NET applications.
- Advanced programming skills in C#, and C++, with a deep understanding of object-oriented programming.
- Proficient in event-driven and microservice architectures, designing and implementing efficient and scalable systems.
- Skilled in using RabbitMQ message broker, facilitating seamless communication between distributed applications.
- Proven expertise in Test Driven Development (TDD), ensuring high-quality code and reducing bugs.
- Proficient in React with a strong understanding of its core concepts and best practices for building interactive web applications.
- Have a solid grasp of Azure DevOps and a foundational familiarity with other cloud service platforms, requiring only minimal additional learning to effectively implement projects.
- Extensive experience in developing, profiling, and debugging multi-threaded applications for optimized performance.
- Experience in CUDA C and C++ programming, developing, and optimizing data-parallel applications for GPUs.
- Experience in Agile methodologies, enabling effective collaboration and rapid software development.

Certifications:

- Certified SAFe® 4 Agilist.
- NVidia Certified CUDA Programmer.

Technical skills:

Programming languages	C#, C++, C, CUDA C, SQL and PLSQL
Frameworks	Asp.Net Core REST API, ASP.Net, WCF, Windows forms, WPF, Entity Framework, Entity Framework Core, ERM-ORM
Frontend	JavaScript, React, HTML/CSS
Databases	Oracle, MS SQL Server, My SQL
Message Brokers	RabbitMQ, ZeroMQ
Cloud	Docker, Kubernetes, Azure DevOps, Ansible, HAProxy
Version control	Git, SVN and TFS
Logging	NLog, Seq, Boost.Log
Testing	NUnit, Google Test, MS Test, Postman, Sikuli

Academic Qualifications:

- B.Tech. - Computer science and engineering from JNTU, 2009
- Post Graduate Diploma in Management - Operations & Finance from NMIMS, 2019

Work History:

- **HolbergEEG AS**: **[Solution Architect] [10/09/2019 – Present]**
  - Solution Architect for Holberg EEG product suite, ensuring product success.
  - Designed and developed the EEG Interchange Protocol (EEGIP) application layer protocol for Holberg EEG products, demonstrating exceptional technical prowess and problem-solving abilities.
  - Led the architecture and development of hiSCORE a cloud ready web platform utilizing React, ASP.Net Core, and other technologies.
  - Collaborated with Natus Medical Inc. team for seamless integration with EEG review software with hiSCORE.
  - Developed autoSCORE a software only medical device integrating AI models for EEG recordings categorization.
  - Integrated autoSCORE into the Natus EEG software, a notable achievement acknowledged in a publication by JAMA, significantly progressing research in the field of neuroscience. (Publication: [https://jamanetwork.com/journals/jamaneurology/fullarticle/2806244])
  - Contributed to product risk evaluation, cybersecurity threat modeling, and FDA submission process.
  - Demonstrated exceptional technical writing skills for documentation and regulatory compliance.
  - Took complete ownership of SCORE Premium, a legacy desktop application being phased out in favor of hiSCORE, to enhance functionality, improve user experience, and ensure a seamless transition to the new platform.

Technologies: React, ASP.Net Core REST API, Entity Framework Core, SignalR Core, Redis, RabbitMQ, ZeroMQ, MS SQL, Docker, Kubernetes, Azure DevOps, WPF, WCF, MS SQL, Telerik Reporting, Entity Framework, TensorFlow, Python, ONNX Runtime, C, C++, Google Test, Boost Libraries, Open SSL.

- **Aveva Solutions**: **[Senior Software Engineer] [01/10/2015 – 09/09/2019]**
  - Enhanced and maintained the ERM core framework, ensuring the extensibility and seamless integration of Aveva and third-party solutions into Aveva ERM.
  - Contributed to the design and development of the ERM integration and ERM audit log frameworks.
  - Collaborated with cross-functional teams to customize ERM suite for customer requirements.
  - Led development of key modules within ERM, delivering comprehensive project management solutions.
  - Integrated ERM seamlessly into customer processes, ensuring smooth transition and utilization.
  - Demonstrated leadership in guiding development teams and ensuring project success.

Technologies: WCF, WPF, .Net 4.5, ASP .Net MVC, Xceed WPF Controls, LightInject, Fluent Validation Framework, Oracle 11g, Devart dotConnect for Oracle, NUnit, NLog and Custom ORM Framework with Custom Query Language called LQuery.

❖ **Cubic Transportation Systems**: **[Senior Systems Engineer] [03/03/2014 – 28/09/2015]**

- Contributed to the development of multiple engines within the Core Ticketing Engine (CTE) as part of Cubic's Next City Vision to replace Transport for London's (TFL) legacy ticketing system, FASTIS+.
- Specifically involved in the development of the Peripheral Driver Engine (PDE), Journey Planning Engine (JPE), Ticketing Engine (TE), Fulfilment Engine (FE), and ITSO Engine (IE) within the CTE.
- Played a crucial role in ensuring the successful transition from the legacy ticketing system to the new SOA-based Core Ticketing Engine, providing TFL with an updated and scalable ticketing solution.

Technologies: WCF, .Net 3.5, MySQL, MS SQL, NUnit, NLog, and Entity Framework.

❖ **Infosys**: **[Technology Analyst] [08/06/2009 – 21/02/2014]**

- Led design and development of Infosys Front End Automation Platform, automating ticket resolution.
- Maintained and enhanced NCBC intranet SharePoint portal, supporting various back-office automations.
- Contributed to the development, performance profiling and optimization of Property Editor Module of Gen-V Reservoir Simulator having features such as Intellisense and auto method argument filling for domain experts.
- Re-engineered the LM Parser tool, utilizing .NET 4 Parallel Extensions to significantly reduce parsing time from 5.5 hours to approximately 38 minutes.
- Re-engineered and ported the Open LBM Flow Lattice Boltzmann solver onto the CUDA platform, significantly improving performance.
- Developed a native API using C++ and CUDA C, leveraging NVidia CUDA and Parallel Patterns Library technologies, to facilitate the development of Monte Carlo applications targeting NVidia GPU Clusters.
- Developed a seismic analysis application utilizing Kirchhoff's Migration, capable of running on both NVidia GPUs and multi-core CPUs. The application demonstrated a remarkable 10x performance gain on NVidia GPUs compared to multi-core CPUs, showcasing the superior computational capabilities of GPU-based parallel processing.
- Developed a WinForms application to showcase the performance benefits of leveraging .NET 4 Parallel Extensions, optimizing a back-office bank application for "Scheduled Funds Transfer" requests, and achieving a significant 78.75% reduction in execution time.
- Developed a WinForms application showcasing the exceptional performance advantages of utilizing NVidia GPUs for Monte Carlo Simulations. Achieving an impressive ~130x performance gain compared to multi-core implementations, the solution demonstrated the significant computational power of NVidia GPUs.

Technologies: Sikuli, .NET 3.5, Windows Batch Scripting, IBM RFT and Windows Workflow Foundation, SharePoint 2007, MS SQL Server, .NET 3.5, Windows Batch Scripting, Infragistics Net Advantage, WPF, .Net 4 Parallel Extensions, PLINQ, Concurrency Visualizer, NVidia CUDA, ParaView data visualizer, Microsoft HPC Server 2008 Cluster Development.