Brishna Batool

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Education

August 2017	**Bachelor of Science (Computer Science)**, *National University of Computer and Emerging Sciences (FAST-NUCES), Lahore.* CGPA 3.48 Dean's Honour List: Fall 2014, Spring 2015, Fall 2015, Spring 2017
August 2013	**GCE Advanced Level**, *Lahore Grammar School, Lahore.* 2As (Mathematics, Physics)
August 2011	**GCSE Ordinary Level**, *Convent of Jesus and Mary, Lahore.* 7 A*/As

Experience

2019–Current Lahore University of Management Sciences, *Research Associate.*
Research in the following areas of Computer Science:
- Program analysis
- Machine learning

2017–Current National University of Computer and Emerging Sciences (FAST-NUCES), *Teaching Assistant.*
- Spring 2019 – Compiler Construction
- Fall 2018 – Compiler Construction
- Spring 2018 – Compiler Construction
- Fall 2017 – Object Oriented Analysis and Design

2017–2019 Information Technology University, *Research Associate.*
Research in the following areas of Computer Science:
- Model checking
- Program synthesis
- Automatic correction
- Compiler construction
- Machine learning

2016–2017 Techlogix, *Final Year Project for Bachelor of Science Degree.*
Time series prediction using statistical methods and machine learning

2015–2017 Fiverr, *Freelancer.*
- Database design and development
- Small C++/JAVA projects

2015–2017 Interface, *Literary Society at FAST-NUCES.*
- 2016–2017 : Editor in Chief
- 2015–2016 : Vice President

2015–2017 **Association of Computing Machinery (ACM)**, *Head of Department–Documentation*.

Events:
- ICPC 2015
- Geek Week 2014

Projects

2018–2019 **Protictor**, PROmela automaTIC correcTOR.
Automatic corrector for models violating ω-regular properties
- Research and development
- Developed in C++;
- Uses SPIN model checker

2016–2017 **Sales forecasting for wholesale distributors**.
Final Year Project with Techlogix
- Prediction using hybrid of Holt-Winters and ANN
- Research and development
- Developed using R

Spring 2017 **Compiler for C**--.
Bottom-up compiler for self-defined language C--
- Complete language specification
- Lex, parser, translator, virtual machine
- Developed in JAVA

Fall 2016 **SNOW**, Student NOW.
Desktop student management suite
- Term project for Software Engineering Course
- Complete and extensive documentation
- Developed in JAVA

Spring 2016 **ICR handwritten text reader**.
Intelligent Character Recognition app
- Joint term project for Artificial Intelligence and Software for Mobile Devices courses
- Android app for text recognition using machine learning
- Developed in Android, using Neuroph for training Artificial Neural Network (ANN)

Fall 2015 **Photo sharing website**.
Web-based photo sharing application
- Term project for Web Development course
- JavaScript client including modules for gallery display and slideshow
- PHP server
- Developed using PHP, JavaScript, CodeIgniter, and XAMPP

Summer 2015 **BondLogic**.
Web App for companies providing bonds for bail in the US
- Deployed in the United States of America
- Database and reporting system
- Developed using Microsoft Access and Microsoft SharePoint

Publications

A Spectrum of Concurrency Correcting Transformations for Violations,
Muhammad Umar Janjua, Falak Sher, Brishna Batool, Hamra Afzaal, Alan Mycroft.
Submitted to Software and Systems Modeling (SoSyM) 2019, awaiting response

Skills

Model Checking	SPIN, Promela
Compiler Construction	llvm, handmade compilers
Programming Languages	C/C++, JAVA, JavaScript, PHP
Application Development	Web, Android, Desktop (Linux, Windows)
Miscellaneous	Bash scripting, git, regex
Personal	quick learning, problem solving, good verbal skills

Interests

Reading

Sports

Logic puzzles– paper and pen (Sudoku, Crossword, etc.), hand-held (3D hand puzzles, LEGO bricks, model building etc.)

Card and board games

Video games