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| Maktuba Mohid. Email: maktuba\_mohid@yahoo.com, Mobile: +44-07871469259 |

* **Having a good academic background**
* **A highly competent software engineer**
* **About 18 years of work experience as a Software developer, programmer, and Software quality assurance engineer.**
* **A proven problem solver and team player. Involve in team and work management**
* **Involve in planning coding structure, software architecture, database design, and architecture**
* **Actively think and plan about new ideas, and new features, involved in an investigation about tools, coding, etc**
* **Can learn and work with any programming language easily**
* **A passionate researcher**

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| **Date of Birth:**23-07-1982 **Sex:** Female  **Citizenship:** British, Bangladeshi  **Language is known:** English, and Bengali. |  |

**My Skills:**

* Languages: C, C++, Ada, JavaScript, Perl, Lua, C#, Java, Assembly, Shell Script, Visual C++, Visual Basic, OpenGL, Prolog, PHP, ASP, ASP.NET, HTML, XML, UML, PostScript.
* Platforms: DOS, Winows, Linux.
* Tools: Visual Studio, .Net, GPS (for Ada), Eslint (for Javascript), SVN (for version control), Bugzilla (for bug reporting).
* Database: Oracle, MS-SQL Server, MySQL, PLSQL, MS Access.
* Technology: TCP/IP, OSI, SMTP-POP3, Ethernet, ATM.

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| **Qualification** | **Institution** | **Grade Achieved** |
| PhD in  Computer Science | University of York  York, UK | Passed |
| M.Sc in  Business information system | University of East London  (UEL)  London, UK | Merit  (68% Mark) |
| Bachelor in  Computer science  and Engineering | Bangladesh University of Engineering and Technology  (BUET)  Dhaka, Bangladesh | CGPA: 3.78(Out of 4.00) |
| Higher Secondary Certificate | Viqarunnisa Noon College  Dhaka, Bangladesh | First Division(88.5% mark) |
| Secondary School Certificate | Viqarunnisa Noon School  Dhaka, Bangladesh | First Division(85.7% mark) |

**Employment History:**

**June 2016 - November 2024 Senior Software Developer**

**Rapita Systems Ltd,**

**Atlas House,**

**Osbaldwick Link Road,**

**York YO10 3JB, UK**

[**https://www.rapitasystems.com/**](https://www.rapitasystems.com/)

November 2012 – January 2016 Software developer / Researcher

**Research-based project:**

Title--”Evolution-In-Materio: Solving Computational Problems Using Materials”

Supervision of Dr. Julian F. Miller,

Reader, Department of Electronics,

University of York

September 2011- September 2012 Software Engineer

Vizrt Ltd, Bangladesh

[**www.vizrt.com**](http://www.vizrt.com/)

June 2008 – May 2011 Software Developer

Meridian Computer Services

11-12 Bury Street

London EC3A 5AT

[**http://www.mips.co.uk**](http://www.mips.co.uk/)

October 2007 to May 2008 Software Developer

Skive Creative Limited

31 Great Titchfield Street

London, UK

[**www.skive.co.uk**](http://www.skive.co.uk/)

April 2007-September 2007 Software Development Consultant

Strait Logics Limited.

20 Chapel Street

Billericay.

London, Essex,

UK.

[**www.straitlogics.com**](http://www.straitlogics.com/)

June 2006-December 2006 Quality Assurance Engineer

Relisource Technologies Limited,

Gulshan, Dhaka, Bangladesh

(Head office Boston, U.S.A)

[**http://www.relisource.com**](http://www.relisource.com/)

September 2005-May 2006 Programmer

Center for Environmental and Geographic Information

Services (CEGIS)

Gulshan, Dhaka, Bangladesh

**Research-based project:**

Title--”Evolution-In-Materio: Solving Computational Problems Using Materials”

Supervision of Dr. Julian F. Miller,

Reader, Department of Electronics,

University of York

Description of the research:

The motivation behind the research is to show that evolutionary algorithm can exploit properties of materials to solve various computational problems without requiring a detailed understanding of such properties. This approach is referred to as evolution-in-materio. In this research, it has been shown that using a purpose-built hardware platform called Mecobo, it is possible to evolve voltages and signals applied to physical materials to solve a number of computational problems. Here it has been demonstrated for the first time that the evolution-in-materio method can be applied to a number of problems: function optimisation, machine learning classification, frequency classification, even parity and bin packing problems. This evolution-in-materio method has also been applied here to discriminate tones and control robots. The physical material used in each of these experiments is a mixture of single-walled carbon nanotubes and a polymer. This is the first time that such material has been used to solve computational problems. The results of all of these experiments indicate that evolution-in-materio has promise and further investigations would be fruitful. Other than the solutions regarding these computational problems, this thesis has also devised and investigated suitable input-output mappings and input signals that allow various computational problems to be solved using the Mecobo platform and the experimental material.

The evolutionary algorithms were written in C#.

The interface software (driver software) of Mecobo hardware works with a client application and a control software. The control software implements the application programming interface (API) as a Thrift server. Thrift is a technology maintained by Apache which is designed to allow applications written in different programming languages, running on different operating systems and on different computers to communicate with each other. Thrift provides a language that is used to define the functionality used by the server. This language is then compiled by the Thrift compiler into skeleton code which contains all the functionality needed for a server and accepting connections, but the functional components remain missing. Afterward those functional components are added to complete the server implementation. On the client side, the interface is compiled by Thrift into a library which exposes all the methods in the API. Thrift is able to generate the client and server codes in many programming languages, such as C++, C#, Java and so on. The client library is then connected to server through shared memory if the client and server are both in the same PC and through TCP if the client and server are in different PCs. Client applications only need to implement their functionality. In this research, the server and client codes were generated in C#. I was involved in writing some functionality of client applications.

M.Sc Thesis: Title-- ’Analysis of fingerprint image to verify a person’ under the

supervision of Hossein Jahankhani,

Professor, School of Computing And Technology,

University of East London (UEL).

And

Chrisina Draganova,

Professor, School of Computing And Technology,

University of East London (UEL).

Description of the research:

The main focus of this research is fingerprint matching process. Full fingerprint matching process (fingerprint collection, image processing, image enhancement, fingerprint matching) is discussed here. Some matching algorithms have been analysed and compared here. A new matching algorithm has also been proposed/ suggested, which is location, rotation, clipping, noise, non-linear distortion insensitive, whose cost is low, but accuracy level is high. The algorithms were written in Matlab.

B.Sc Thesis: Title -- ’A Study on Linear Programming’ under the

supervision of Dr.Md. Kaykobad,

Professor, Dept. of Computer Science and Engineering,

Bangladesh University of Engineering and Technology (BUET).

Description of the thesis: The main focus of this research is linear algorithm. Full linear programming process is discussed here.

**Publications:**

[1] Miller, J. F. and Mohid, M. (2013). Function optimization using Cartesian Genetic Programming. In Proceedings of the Genetic and Evolutionary Computation Conference,

pages 147{148}

[2] Mohid, M. and Miller, J. F. (2015a). Evolving robot controllers using carbon nanotubes. In European Conference On Artificial Life. Springer. In Press.

[3] Mohid, M. and Miller, J. F. (2015b). Evolving solutions to computational problems using carbon nanotubes. International journal of unconventional computing. In Press.

[4] Mohid, M. and Miller, J. F. (2015c). Solving even parity problems using carbon nanotubes. In 15th UK Workshop on Computational Intelligence (UKCI). In Press.

[5] Mohid, M., Miller, J. F., Harding, S. L., Tufte, G., Lykkeb, O. R., Massey, M. K., and

Petty, M. C. (2014a). Evolution-in-materio: A frequency classifier using materials. In Proceedings of the 2014 IEEE International Conference on Evolvable Systems (ICES):

From Biology to Hardware., pages 46{53}. IEEE Press.

[6] Mohid, M., Miller, J. F., Harding, S. L., Tufte, G., Lykkeb, O. R., Massey, M. K., and Petty, M. C. (2014b). Evolution-in-materio: Solving bin packing problems using materials. In Proceedings of the 2014 IEEE International Conference on Evolvable Systems (ICES): From Biology to Hardware., pages 38{45}. IEEE Press.

[7] Mohid, M., Miller, J. F., Harding, S. L., Tufte, G., Lykkeb, O. R., Massey, M. K., and Petty, M. C. (2014c). Evolution-in-materio: Solving function optimization problems using materials. In 14th UK Workshop on Computational Intelligence (UKCI), pages 1{8}. IEEE Press.

[8] Mohid, M., Miller, J. F., Harding, S. L., Tufte, G., Lykkeb, O. R., Massey, M. K., and Petty, M. C. (2014d). Evolution-in-materio: Solving machine learning classification problems using materials. In Parallel Problem Solving from Nature - PPSN XIII - 13th International Conference, Proceedings, volume 8672 of LNCS, pages 721{730}.

Springer.

[9]Mohid, M., Miller, J. F., Harding, S. L., Tufte, G., Lykkeb, O. R., Massey, M. K., and Petty, M. C. (2015). Evolution-in-materio: Solving computational problems using carbon nanotube-polymer composites. Soft Computing. Submitted.

[10] Hossein Jahankhani and Maktuba Mohid (2010). Analysis of fingerprint image to verify a person. In International conference on global security, safety and sustainability, Proceedings, pages 104-119.

**Commercial Projects:**

Project#1: Developing backend part of RapiCover, RapiTest, RapiTime with unit tests.

Description of the project: Rapita Systems Ltd develops testing softwares and assures qualities for embedded systems, specially for aerospace and automobile industries. Rapita systems Ltd develops RapiTime, RapiCover and RapiTest. RapiTime does timing analysis for softwares of embedded systems. RapiCover does coverage analysis for softwares of embedded systems. RapiTest writes tests and assures quality for softwares of embedded systems. I am involved in backend development of these softwares. I am mainly responsible for the part of the software which involves fetching data from client's code and then analyse and making own database from the analysis. I have worked also with the second part of the software, which generates tests and reports based on analysed data obtained from first part. Whenever I develop any feature or solve a bug, I write unit tests to ensure the developed code is bug free. Our quality assurance team again writes tests according to features. But I am the part of developers team. Rapita is the daughter company of Danlaw Inc which is a US-based company.

Previously Rapi softwares analysed Ada and C based client codes. My first project in this company is to support C++ based client code. We not only developed options for supporting C++ based code, we also refactored old code supporitng C based code.

Our clients use different types of compilers, but our software mainly uses clang compiler, but for supporting codes of other compilers, we have to make our own language and compiler named Cext (full form is C extension), which is basically a language via which out client facing technical team/client can add/amend extra facilities/supports to make clang compiler cope with client's compiler. This Cext was my second project in this company.

In third project, I was involved in making our own language and thus compiler which is involved in writing tests for client's code. Basically our company uses own testing language.

In last and current project, I have come to the part which is basically analyse client's code (written in C/C++/Ada), fetch data/useful information from the analysis and put in database for future use to make reports (timing/ coverage reports), tests etc. I am involved in adding small features/ solving bugs of this part. Other than this part, I am also involved in solving bugs that I worked before in my last three projects.

Organization: Rapita Systems Ltd.

Project#2: Assuring the quality of the MAM Backend project.

Project#3: Developed Investment Software named IRAS

My role in the Project: Developing the software and working as assistant project manager. I also did system analysis in this project and made UML.

Organization: Meridian Computer Services.

Technology Used: C#, Microsoft Sql Server, Crystal.

Project#4: Website of NFL (National Football League) UK

Description of the Project: This is a web based software. The registration, gaming site are developed by me. New user can register. Games can be predicted by this site. Any member can predict team and build his team. The prediction result is given every week. Depending on this prediction, prizes are given to the members.

My role in the Project: Developing the software.

Organization: Skive Creative Ltd.

Technology Used: ASP.NET, JavaScript, C#, Microsoft Sql Server.

Project#5: Website of Motive8 Gym.

My role in the Project: Developing the software.

Organization: Skive Creative Ltd.

Technology Used: ASP.NET, JavaScript, C#, Microsoft Sql Server.

Project#6: Skive feedback form

My role in the Project: Developing the software.

Organization: Skive Creative Ltd.

Technology Used: ASP.NET, JavaScript, C#, Microsoft Sql Server, Flash, Action script.

Project#7: Skive Archive

My role in the Project: Developing the software.

Organization: Skive Creative Ltd.

Technology Used: ASP.NET, JavaScript, C#, Microsoft Sql Server.

Project#8: UML of NFL UK site

Organization: Skive Creative Ltd.

Technology Used: UML

Project#9: Customer of the project: British Aerospace (BAE).

My role in the Project: Developing the software.

Organization: Strait Logics Limited, UK.

Technology Used: C++, PostScript, Excel.

Project #10: Customer of the project: TOYOTA.

My role in the Project: Developing the software.

Organization: Strait Logics Limited, UK.

Technology Used: C++, PostScript, Excel.

Project #11: Customer of the project: Chivers.

My role in the Project: Developing the software.

Organization: Strait Logics Limited, UK.

Technology Used: C++, PostScript, Excel.

Project #12: Customer of the project: Barclays Bank.

My role in the Project: Developing the software.

Organization: Strait Logics Limited, UK.

Technology Used: C++, PostScript, Excel.

Project #13: Customer of the project: Lloyds TSB Bank.

My role in the Project: Developing the software.

Organization: Strait Logics Limited, UK.

Technology Used: ASP.NET, C#, Oracle.

Project#14: Integrated Coastal Resource Database (ICRD).

Technology Used: C#, ASP.NET and HTML are used for web-designing, ORACLE is used

In Database side.

My role in the Project:

Building, debugging and do enhancement of the existing Project. New functionality is added and its role is fully implemented according to supplied specifications.

Organization: Center for Environmental and Geographic Information Services (CEGIS)

Project #15: Webpage of CHittagong hill tracts nAtural Resource

Management (CHARM).

Technology Used:

HTML as Web-designing language.

My role in the Project:

Designing and Building the web-page.

Organization: Center for Environmental and Geographic Information Services (CEGIS)

Project #16: Software on Pond survey information of Bangladesh.

Technology Used:

Map Object for map viewing.

Access for Database.

Visual C++ as front-end.

My role in the Project:

Building, debugging and do enhancement of the existing project. New functionality is added and its role is fully implemented according to supplied specifications**.**

Organization: Centre for Environmental and Geographic Information Services (CEGIS)

Project #17: Webpage of Ministry of Water Resource (MoWR).

Technology Used:

HTML as Web-designing language.

My role in the Project: Designing, building and modification of the webpage.

Organization: Centre for Environmental and Geographic Information Services (CEGIS)