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Curriculum vitae

PERSONAL INFORMATION	**Machat Mohamed**

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💬 Skype mmachatt

JOB APPLIED FOR   Computational biologist

WORK EXPERIENCE

MAY 2017–PRESENT — **Postdoctoral fellowship**
Université Paris Diderot, Paris (France)
http://parisepigenetics.com/pter/

- Analysis of Ribo-seq and RNA-seq data to find co-regulated genes in HeLa cells

FEB 2013–JUL 2013 — **Internship**
Laboratoire Statistique et Génome & Génoscope, Évry (France)

- Biclustering and data integration of the BKACE proteins data and metadata

OCT 2010–JUL 2011 — **Civil engineer**
National Center for Construction Techniques, Tunis (Tunisia)

- Development of a multi-objective optimization algorithm for an asphalt composition

FEB 2010–JUN 2010 — **Internship**
INRIA, Nice (France)

- Mathematical and computational analysis of genetic regulatory networks

EDUCATION AND TRAINING

JUN 2014–APR 2017 — **PhD**   EQF level 8
Institut Pasteur, Paris (France)
https://research.pasteur.fr/fr/member/mohamed-machat/
Computational geometry for the determination of biomolecular structure

- Use of graph theory to model the 3D protein structure
- Use of Branch and Prune algorithm to parse the solutions tree
- Use of C++ template metaprogramming

SEP 2012–JUN 2013 — **Master of science in statistical genetics and genomics**
Université d'Évry val d'Essonne, Évry (France)

OCT 2011–JUN 2013 — **Master of science in systems and synthetic biology**   EQF level 7
Université d'Évry val d'Essonne, Évry (France)

SEP 2007–JUN 2010 — **Civil engineering degree**
National Engineering School of Tunis, Tunis (Tunisia)

SEP 2004–JUN 2007 — **Preparatory classes: Physics & Chemistry**

Tunis's Preparatory Institute for Engineering Studies, Tunis (Tunisia)

SEP 2003–JUN 2004   **Tunisian National baccalaureate of mathematics**
Mention Très Bien

PERSONAL SKILLS

JOB-RELATED SKILLS   Software engineering: I was enrolled in an ongoing project to expand an existing software during my PhD.
Fluency in C++: I extensively used BOOST and STL libraries.
Experience in structural bioinformatics and computational geometry.
English writing: I wrote my PhD thesis in English.

COMPUTING SKILLS
- **Scripting Languages**: Maple, Matlab, Python, Tcl, R, UNIX/Linux shell
- **Programming Languages**: C/C++, Turbo Pascal

MOTHER TONGUE   Arabic

OTHER LANGUAGE(S)   French, English, Spanish

ADDITIONAL INFORMATION

CERTIFICATIONS   Participation in the International Mathematical Olympiad Athens 2004

PROJECTS
- **2012**: Multi-scale modelling of a genetically modified tadpole. iGEM competition, MIT, USA
- **2008**: Design and structural analysis of a clinic in Tunis. Project in collaboration with the National School of Architecture and Urban Planning

HONOURS AND AWARDS   As a member of Evry team, competing in the international Genetically Engineered Machine championship 2012:
- Best European model
- Gold medal

PUBLICATIONS   Machat M, Worley B, Liberti L, Lavor C, Bardiaux B, Bouvier G, Nilges M, Malliavin T.
Using interval branch-and-prune algorithm to explore the protein conformational space. *BMC Bioinformatics,* (in revision).

MEMBERSHIPS   Member of the French Institute of Bioinformatics

DRIVING LICENCE   B