

Arnaud KOPP

Computational Biologist

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Experiences

Mar 2014 – **Computational Biologist**, *IGMBC High Throughput Screening facilities*,
Present Strasbourg (Fr).

In Charge of development of statistical data analysis tools in Python & R, statistical analysis of HCS data and images.

Detailed achievements:

- Python package development, use of Numpy, Scipy, pandas, matplotlib.
- R package development, use of dplyr, ggplot2, bioconductor.
- Bio-statistics and statistical modeling applied to biology.
- Machine learning applied to HCS data with use Scikit-Learn (Python) and rpart, CARET, nnet in R.
- Image analysis with HCStudio, CellProfiler, ImageJ and custom c++ pipeline.
- NGS, RNA-sequencing.
- CRISPR-Cas9 knock-out screening analysis.
- Data Management and back-up.
- Database creation and maintenance, with PostGreSQL and MongoDB.
- Bioinformatics project management.

Jan-Jun 2013 **Intern**, *IGBMC Biocomputing team*, Strasbourg (Fr).

Implementation and evaluation of a integrative modeling protocol for macromolecular complex in coarse resolution.

Detailed achievements:

- Python and C++ programming.
- Structural biophysics.
- Clustering of structural conformation.

Supervisor: Pr Annick Dejaegere, Schwarz Benjamin

July 2012 **Intern**, *IGMBC Structural biology of epigenetic targets team*, Strasbourg (Fr).

Molecular modeling and ligand docking on protein PRMT family.

Detailed achievements:

- Structural biophysics.
- Molecular modeling.
- Molecular dynamics.
- Studies of structural conformation.

Supervisor: Pr Jean-Marie Wurtz

Education

- 2011-2013 **Master's degree**, *University of Strasbourg*, Strasbourg (Fr), Bioinformatics, computational biology and structural biology.
- Computer science (Java and Python programming)
 - Algorithmic
 - Database
 - Bioinformatics and genomics courses
 - Statistics applied to biology
 - Structural biology
- director: Pr Jean Marie Wurtz
- 2008-2011 **Bachelor's degree**, *University of Strasbourg*, Strasbourg(Fr), Biology and computer science.
- Biology
 - Computer Science (Python programming)
 - Statistics
- director: Pr Jean Marie Wurtz

Technical Experience

- Languages Python(Numpy, Pandas, Scipy, Scikit-learn, Matplotlib, seaborn)
R(dplyr, ggplot2, data.table, Bioconductor)
C, C++, Julia, Java
- Science Computational biology, Bio-statistics, Next-Generation Sequencing, Genomics, Image analysis, Algorithmic, Data Science, Machine Learning
- Others SQL(PostgreSQL), NoSQL(MongoDB), Bash Scripting, Git(Github, Gitlab), Linux environment(Fedora, Ubuntu), L^AT_EX