Hector Roux de Bézieux

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Biostatistics Graduate Student looking to apply his strong mathematic skills to solve concrete issues in genomic data analysis

Education

Ph.D student in Biostatistics — **UC Berkeley**
GPA 4.0 — *2017 - Ongoing*

- *Statistics:* PhD level classes in advanced theoretical & applied statistics, computational statistics, and time series with specific application on shrinkage, multi-hypothesis testing and experiment design.
- *Biostatistics:* Specific courses on genomic data analysis, including sequencing algorithm, biological processes, normalization and differential expression, with a special focus on scRNA-seq.
- *Computer Science:* Additional classes on machine learning (neural nets, classification algorithms) and statistical computing.

Master of Science in Biology & Bioengineering — **École polytechnique and UC Berkeley**
GPA 3.86 — *2015 - 2017*

- *SmartPhage, UC Berkeley-based start-up:* Conducted market analysis for the prospect of a technology targeting antibiotic-resistant bacteria and designed protocols for biosafety level 2 environments.
- *Abdul Barakat's Cardiovascular and Cellular Engineering Lab, Paris:* Mathematical modelization of transdermal drug delivery and computational simulation of a microneedle device.

Bachelor of Science in Mathematics & Physics — **École polytechnique**
GPA 3.94 — *2011-2015*

Research Experience

Sandrine Dudoit's Lab & Lin He's Lab — **UC Berkeley**
Graduate Student Researcher — *Septembre 2017 – Ongoing*

- Development of normalization techniques and time-series clustering methods in the context of embryogenesis and scRNA-Seq.
- Computational implementation of those techniques.
- Integration of of Chip-Seq and RNA-Seq data.
- Regular presentation of work using tools such as markdown documents or shiny apps.
- Collaboration between a biology and a biostatistics lab.

Institut Jacques Monod, Cellular Adhesion and Mechanism Lab — **Paris, France**
Research Intern, Benoit Ladoux and René-Marc Mège's team — *March–July 2016*

- Collaborated with members of the team and other labs in France.
- Bibliographic research.
- Designed and conducted lab in vitro experiments with results to be published.
- Produced a 40-pages scientific report and presented several times my results in front of a multi-national team.

Work Experience

Pendulum

Computational Biologist *June 2018 - Ongoing*

- Analysis of clinical trial data.
- Helped in designing a future clinical trial.
- Evaluated assembly pipelines for complex metagenomics assembly projects.
- Analysis of 16S and shotgun metagenomics data.

PSA Peugeot Citroën

Intern, Strategic Partnership Department *June–August 2015*

- Independently analyzed financial and auditing reports to give a strategic overview of PSA's Chinese partners.
- Participated in meetings and interview to conceive the business model for a joint PSA R&D center in China.

French Army, Elite Mountain Troop

2^{nd} Lieutenant *Sept 2013–April 2014*

- Took courses on leadership in the French ground forces
- Led a group of 8 professional soldiers during a NATO exercise in great Northern Norway
- Led a group of 30 freshly enrolled soldiers through their first weeks in the army

Related skills

Computer skills

MAPLE, Stata (Basics), Python, Bash(Intermediate), R, Latex (Expert)

Languages

English (fluent), French (native), German (intermediate)

Interests

First Aid Certification by the Red Cross: 2011

Cycling: Over 1500 miles annually over the last years

Rowing: 6 years at national level

Sailing: Summer instructor