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| Germain Salvato Vallverdu  Scientific Computing Developer Engineer  germain.vallverdu@gmail.com +33 6 88 59 08 87 github.com/gvallverdu  Inquisitive, exigent scientific computing specialist with 10+ years experience in numerical simulations and scientific programming. Seeking to leverage skills in communication, management and computer science as developer engineer. | |  |
| EXPERIENCE  Associate Professor in numerical simulations  University of Pau and Pays Adour   |  |  | | --- | --- | | 2010 – ongoing | Pau, France |  * Develop original multi-scale computational strategies adapted to chemical systems in multi-disciplinary teams * Develop and distribute data analyses libraries with Python * Supervise research projects with Ph.D. and Master students * Train UPPA users to HPC and programming languages using active learning   Research Engineer  CEA DAM   |  |  | | --- | --- | | 2009 – 2010 | Bruyères le châtel, France |  * Developed parallel, MPI-based, C routines to extend HPC code * Accomplished the parametrization of advanced models for energetic materials   Ph.D. in computational physical-chemistry  Université Paris-Sud 11   |  |  | | --- | --- | | 2006 – 2009 | Orsay, France |   Theoretical study of photophysics properties of fluorescent proteins   * Developed novel numerical simulations strategies adapted to biological systems * Elaborated Fortran routines to produce and analyze high throughput simulations   PROJECTS   |  |  | | --- | --- | | Pymatgen – Python Material Genomics | Active contributor |  * Use python to implement new features for high throughput production and analyzes of quantum chemistry simulations <https://pymatgen.org/team.html>  |  |  | | --- | --- | | Mass Spectrometry Imaging Software (LA-ICP MS) | Lead programmer |  * Build python notebooks for data analyzes that answer experimenters needs * Plotly-Dash web application: Chemical mapping imaging and data exploration <https://pychemapps.univ-pau.fr/icpms/>  |  |  | | --- | --- | | Mosaïca – A nano-materials constructor | Lead programmer |  * Use python to implement new algorithms and provide a new library to generate shape deformations on nano-materials * Develop a Plotly-Dash web application to visualize structural data <https://pychemapps.univ-pau.fr/mosaica/>  |  |  | | --- | --- | | Mammoth – A molecular force field optimizer | Lead programmer |  * Implement algorithms for efficient optimization of force-field parameters <https://mammoth_uppa.gitlab.io/>   HPC SIMULATIONS  Energy storage materials – Li-ion batteries  Surface reactivity of cathode materials from experimental/computational approaches  Petroleum chemistry and complex matrices  Molecular modelling and simulations of crude oil and asphaltens subfractions | SKILL   |  |  | | --- | --- | | Computer science |  | | HPC |  | | Data Science |  | | Mathematics / Modeling |  |   Computer science details  github/gitlab  Sphinx-doc  Hugo / Jekyll  Django  LaTeX  C++  MPI  Dash  HTML/CSS  Plotly  numpy/scipy  pandas  Jupyter   |  |  | | --- | --- | | Python |  | | Linux/Bash/Unix |  | | C / Fortran |  | | git |  | | Java |  | | Maching Learning |  |   LANGUAGES  OOP   |  |  | | --- | --- | | French (native) |  | | English |  |   EDUCATION   |  |  | | --- | --- | | Ph.D. in Physical-Chemistry | | | 2006 – 2009 | Université Paris-Sud 11 | | M.Sc. in Physical-Chemistry | | | 2004 – 2006 | Université Paris Sud 11 | | Magistère de Physico-Chimie-Moléculaire | | | 2003 – 2006 | Université Paris-Sud 11  ENS Cachan | | CPGE in Physics & Chemistry | | | 2001 – 2003 | Lycée Arago Perpignan | | |