Julio Cesar Ramirez Paredes

Profile

Bachelor of civil engineering, expert in engineering solutions for fluid mechanics and computational fluid dynamics in challenging problems. Interest in fluid mechanics and programming languages. Outstanding learning capacity, motivation to continue learning and orientation to achieve results in my career.

Social Network

(+51) 939196012

julio.ramirez@pucp.edu.pe

Linkedin

Github

Youtube

Pucp

Website

Resume

Languages

English

Portuguese

Programming

C++

Fortran

Python

Education

- **Pontificia Universidad Católica del Perú** — San Miguel ,PE
  Bachelor's Degree in Civil Engineering — *Jul 2019*

Work Experience

- **Pontificia Universidad Católica del Perú** — San Miguel, PE
  Research Assistant — *Jul 2023 - Current*
  - **Machine Learning**: Code development of c++ language on reinforcement learning techniques applied to pedestrian evacuation.
- **Pontificia Universidad Católica del Perú** — San Miguel, PE
  Teaching Assistant — *Mar 2023 - Current*
  - **Fluid mechanics and hydraulics laboratory**: Experimental and theoretical knowledge of conversation laws, hydrostatics, ship stability, hydraulic jump, weirs, non-newtonian fluids, pumps and pipes.
- **Hidro Mayu** — Barranco, PE
  Hydraulic equipment training — *May 2023*
  - **Fluid mechanics**: Installation and training to teachers and students about the equipment of the Universidad de Ingenieria y Tecnologia's hydraulics laboratory
- **Hidro Mayu** — Chiclayo, PE
  Hydraulic equipment maintenance support — *Nov 2022*
  - **Fluid mechanics**: Maintenance and training to teachers and students about the equipment of the Universidad Catolica Santo Toribio de Mogrovejo's hydraulics laboratory
- **Hidro Mayu** — Lambayeque, PE
  Structural equipment installation assistant — *Mar 2023*
  - **Mechanics of materials and structural analysis**: Training to teachers about the equipment of the Universidad Nacional Pedro Ruiz Gallo's structural engineering laboratory
- **Hidro Mayu** — Huacho, PE
  Hydraulic equipment maintenance support — *Nov 2022*
  - **Fluid mechanics and open channel hydraulics**: Maintenance and training to teachers and students about the equipment of the Universidad Nacional Jose Faustino Sanchez Carrion's hydraulics laboratory
- **Centro de Investigación y Tecnología del Agua** — Barranco, PE
  Research Assistant — *Sep 2019 - Nov 2021*
  - **Urban air quality**: Numerical simulation of the navier equations for incompresible newtonian flow in air fluid in urban environments using Openfoam.
  - **Dam break**: Numerical modeling of the shallow water equation for incompresible newtonian flow in dam break escenarios using Telemac-2D.
- **Universidad de Ingeniería y Tecnologia** — Barranco, PE
  Teaching Assistant — *Aug 2019 - Nov 2021*
  - **Mathematics III**: Solid understanding of linear algebra and numerical methods in nonlinear equations, lagrage y newton interpolation, simpson's rule, runge kutta, gaussian elimination and jacobi iteration.
- **Pontificia Universidad Católica del Perú** — San Miguel, PE
  Jefe de Práctica — *Mar 2019 - Jul 2020*
  - **Open Channel Hydraulics**: Solid understading of channel morphology, hydraulic engineering and sediment transport.
- **MJ & Asociados Water Resources Consulting** — Lima, PE
  Practicing civil engineer — *Mar 2019 - Jun 2019*
  - **River flood**: Observation of flood zone in the Moquegua river under extreme flood condition to investigate the resilience of the infrastructure.

Software Skills

- **Programming Languages**: C++, C, Fortran, Python, R, Javascript, Scilab, Matlab, CSS, HTML, Bash y Lisp.
- **Softwares**: Hecras, Telemac, Flo-2D, River2D, OpenFOAM, Qgis, Arcgis, Emacs, Pointwise, Tecplot, Blender, Autocad, Latex, Ubuntu, Git y Aws.
- **Tiping**: Typing speed of 65 wpm - Monkeytype, Keybr.

Proyects

- **Turbulent parabolic velocity**: Development of a new boundary condition in the Openfoam library, based on c++. Vertical profile from a predefined parabolic velocity with randoms fluctuations over the time. This pertubations allow to work with LES and DES in unsteady flows.
- **Convert STL format to XYZ**: Code in fortran that allows to take a mesh in STL format and generate an XYZ file. The elements of XYZ file can be used in programs such as qgis, excel, blukenue.
- **Turbulent schmidt number with scalar transport equation**: Implementation of the scalar dissipation equation for a pollutnat with the parameters of the schmidt y prandtl number. Code in Openfoam, based on c++.

Courses

- Master python for data science — inLearning *2021*
- Programming CFD OpenFOAM — CFD Direct *2021*
- Fire modelling with OpenFOAM — OpenFOAM *2020*
- OpenFOAM turbulence — CFD Support *2019*
- OpenFOAM advanced — CFD Support *2019*
- Open source hydraulics modelling of shallow water flow — Universidad Nacional de Ingeniería Hydraulics Laboratory *2018*
- Autocad 2018 advanced — Centro de Cómputo UNIMASTER *2018*

Dictation

- Computational hydraulics with interFoam — PUCP *2023*
- Secondary flow in curved channel with Telemac-2D — Private *2022*
- Hydraulic modelling of free surface flow with Telemac-2D — PUCP *2019*