Tae Geun Kim

Graduate Student

🌐 axect.github.io

✉ edeftg@gmail.com
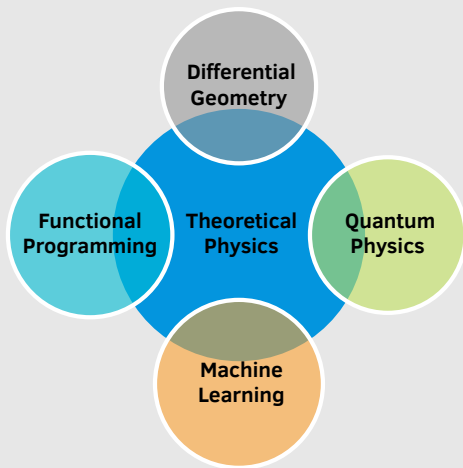
in /in/tae-geun-kim

⌂ github.com/Axect

Knowledge

Overview

Programming

$0\ LOC \longrightarrow 5000\ LOC$

Rust

Go • Haskell • D

Python • Julia • Scala • R • Chapel

C • C++ • Nim • Elixir

Education

MSc. Candidate, Physics
Specialization: Particle Physics
Yonsei University
2017 - | Seoul, South Korea

BSc., Astronomy
Yonsei University
2012 - 2017 | Seoul, South Korea

Research Interests

Geometric method in mathematical physics, General relativity, Scientific computation and Machine learning for High energy physics.

Experience

Mar 2017 - Feb 2018	**Web Assistant**	College of Science, Yonsei Univ.

- Developed and maintained new web page of College of Science, Yonsei University with flask.
- Main work: Debugging and data uploads
- Tool: Apache, CSS, JS, Flask, MySQL

Mar 2017 - June 2017	**Teaching Assistant**	Yonsei Univ.

- TA for PHY4205-01 (Mathematical Physics(1))
- Main work: Delivered several lectures for general relativity and Scoring
- Adviser: Seodong Shin, Dept. of Physics, Yonsei Univ.

Mar 2016 - Feb 2017	**Undergraduate Intern**	Yonsei Univ.

- Studied quantum field theory, general relativity and performed several projects.
- Projects: Practice of HEP calculation tools with ϕ^4 theory
  Tools: MG5_aMC, CalcHep, Mathematica
- Adviser: Seong Chan Park, Dept. of Physics, Yonsei Univ.

Educational Experience

2018   **Schools**

- **The 9th KIAS CAC Summer School on Scientific computing and Machine learning** (KIAS, 26-29 June)

2017   **Schools**

- **The first MadAnalysis 5 workshop on LHC recasting in Korea** (KIAS, 20-27 August)
- **2017 Summer School on Cosmology and Particle Physics** (IBS-CTPU, 7-11 August)

2016   **Schools**

- **2016 Winter School on Cosmology and Particle Physics** (IBS-CTPU, 12-23 December)
- **KIAS-QUC Winter School on Collider Physics** (KIAS, 26-29 December)

2015   **Schools**

- **Yangpyeong Particle Physics School** (KIAS, 17-20 December)

Programming Projects

Sep 2018 – Present	**Peroxide** Rust numeric library with easy syntax	crates

- Rust numeric library contains linear algebra, numerical analysis, statistics and machine learning tools with R, MATLAB, Python like macros.
- Tools: Rust, Cargo, Travis CI

Jul 2018 – Sep 2018	**DNumeric** D numeric library with R syntax	dub

- D numeric library for linear algebra and statistical programming with R syntax.
- Tools: D, dub

May 2018 – Jul 2018	**HNumeric** Haskell Numeric Library with pure functionality, R & MATLAB Syntax.	hackage

- Haskell numeric library implemented by pure functional paradigm.
- Tools: Haskell, Stack, Cabal, Travis CI and Hackage CI

Jan 2018 – Dec 2017	**Hepframework** High Energy Physics Tools on Fedora 27	docker hub

- Docker container for High energy physics tools.
- Tools: Docker, Jupyter, Shell script
- HEP Tools: CERN-ROOT 6, MG5_aMC, CalcHEP, MicrOmegas, Opti-Mass

May 2017 – Nov 2017	**Yonsei HEP-COSMO Web page**	Yonsei HEP-COSMO

- Laboratory web page with Django & Linux server
- Tools: Django, Apache, MySQL

Aug 2017 – Oct 2017	**RGE** Go & Julia package to solve Renormalization Group Equation	github

- Golang Package which solves RGE & generates plot with Julia.
- Tools: Go, Julia, Glide