Sushovan Mandal

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Reflection-based Python-C++ language bindings: cppyy

Google Summer of Code, CERN, March 24, 2016

About Myself

I am a curious, reasonably intelligent guy. I am a dreamer and an aspirant. I am passionately interested in frontier of human science & technology, and it's present and future prospects for Human Civilization. I am trilingual in English, Hindi, Bengali. I am currently studying at the Computer Science & Engineering Department, IIT Kharagpur, pursuing a Bachelor of Technology Degree in Computer Science & Engineering.

You can find my comprehensive Curriculum Vitae here.

cppyy: I am applying for the '**Integrate the Cling backend into PyPy/cppyy**' project for my GSoC.

Why?

❖ I would very much like to work in the **Knowledge Frontier** sector. Any **opportunity to further** the cause of **Human progression** is of **highest priority** to me. Contributing to **CERN** is a good place to start!

❖ I am a **skilled** developer. **Python** is my favourite language and am experienced in **C++11**. So I would be able to fruitfully contribute to this project.

❖ In order to complete the project, I would **get to learn further** about Python and its integration with C++.

❖ On acceptance, this is the **full-time engagement** I will be doing during my Summer Vacation (**May 15 - July 15**). Next **semester** for my college starts from **July 15**, and I will **commit time** from when I am **not in class**, to **complete** my GSoC project till **Aug 16**.

Experience

I have **1+ years** of experience of working with **Python** language, along with **5+ years** of experience of coding in **C & C++** (with 6 months experience with C++11). I am very **comfortable & experienced** in working with **Linux** systems, **Shell** and **git** versioning system, project hosting on **github.com**. I like to code using **Sublime text editor** and work on **Python projects** in **Pycharm IDE**.

❖ I am working on a few modules for **National Digital Library**, IIT Kgp, by MHRD, India, as part of my **B.Tech Project**. I have worked with **Open-source Python modules** like *ebooklib, lxml, BeautifulSoup* etc. for automation of metadata extraction from educative content files.

❖ You can also check out my repository for the ongoing work I am doing related to my **DBMS lab**, using Django frameworks, MariaDb etc.

❖ I designed and developed Java interactive simulations, for **e-learning** purposes, **proportional to real-time motion characteristics** for a few **basic mechanics** topics including those for the Simple Harmonic Motion, for thelearningpoint.net here.

❖ I have worked as a junior-developer (C++, AVR Programming) in an **inter-disciplinary research & developmen**t team in the field of **Robotics & Artificial Intelligence**.

❖ I have worked in a 3 member team *winning 'Best Freshers' Award'* in a competitive **Image Processing based Robotics** event 'Robocop', using **OpenCV** libraries.

I have completed mathematics courses till **Advanced Engineering Mathematics**, courses on **Linear Algebra, Probability & Statistics**. Have done **Physics** courses till **Intermediate level (10+2)** [for idea about the syllabus, check out Concept of Physics book] and try to keep myself updated through **Encyclopedias and news**.