**Talk Title:**

Python in Building Design

**Description:**

How the new generation of Architects and Engineers use python in parametric design, data collection and analysis, and developing custom solutions and add-on to complement the industry-standard software.

**Who and Why (Audience)**

Committee note: The “Audience” section helps the program committee get a sense of whether your talk is geared more at novices or experienced individuals in a given subject. (We need a balance of both lower-level and advanced talks to make a great PyCon!) It also helps us evaluate the relevance of your talk to the Python community.

The purpose of this talk is to showcase the reach of python (and IronPython) in the building design and construction industry. Architect and Engineers are using python more and more, for parametric design, data collection and analysis, and creating custom tools as add-ons to the industry-standard software. I attended a series of talks in previous pyCon on how python is being used in the scientific research and astronomy and thought this talk would also be on the same lines, exposing the challenges and potentials for developing python tools for the building design and construction industry which is generally controlled by very large software companies and is in dire need of powerful modern and open-source tools.

**Outline:**

The “outline” is a skeleton of your talk that is as detailed as possible, including rough timings for different sections. If requesting a 45 minute slot, please describe what content would appear in the 45 minute version but not a 30 minute version, either within the outline or in a paragraph at the end.

Committee note: The outline is extremely important for the program committee to understand what the content and structure of your talk will be. We hope that writing the outline is helpful to you as well, to organize and clarify your thoughts for your talk! The outline will not be shared with conference attendees.

<overview of industry software>

<overview of python’s outreach in each software>

<tool examples for data collection and analysis, parametric design, custom tools>

**Additional Notes:**

Anything else you would like to share with the committee:

Speaker public speaking experience.

Speaker subject matter experience.

Have the speaker(s) given this presentation before elsewhere?

Links to recordings, slides, blog posts, code, or other material.

I have done numerous presentations and tutorials as part of the Portland Revit User Group. I also maintain a YouTube channel on pyRevit and video tutorials on programming in python for the industry standard software. I have given the individual parts of this presentation before.

pyRevit blog: <http://eirannejad.github.io/pyRevit/>

pyRevit Youtube channel: <https://www.youtube.com/channel/UC-0THIvKRd6n7T2a5aKYaGg>

Profile: <https://keybase.io/ein>

Other python tools and libraries I maintain:

<https://github.com/eirannejad/NavisPythonWrapper>

<https://github.com/eirannejad/NavisPythonShell>

<https://github.com/eirannejad/Revit-Journal-Maker>

<https://github.com/eirannejad/rpws>