#34 – STREET NATURE SCORE

• **Supervisor:** Professor Alice Agogino (agogino@berkeley.edu)

• **Industry Partner:** Jeremy Faludi (jer@faludidesign.com), Principal, Faludi Design

• **Project Synopsis:** The goal of this project is to create a small company for environmental and social good. Street Nature Score is an online tool (in beta) using satellite data to measure urban nature for the benefit of the public, urban planners, and realtors. This project will turn the website into a small company by expanding the site's data to commercially-viable size and by finding / developing funding sources. Students will convert geographic information systems (GIS) satellite data into Street Nature Score data for the biggest 100 cities in the US, and will pursue funding from advertising, real estate sources, and government or academic grants. The company will create environmental and social good by encouraging property owners to plant more urban nature and aiding urban planners' benchmarking and goal-setting.

   o **Expected Project Outcomes:**
      o Convert existing satellite map raster data into tabular format for input into an online SQL database.
      o Upload data into online database and test with existing online interactive mapping system.
      o Expand data from 4 cities to 100 cities.
      o Find and pursue funding sources (e.g. advertising, realtors. city or state governments, academic grants, etc.).
      o Sketch business plans based on possible revenue models.
      o (optional) Use artificial intelligence image classification to improve data quality.
      o (optional) Enroll in one or more business plan competitions.

   o **Technical Challenges:** Geographic information systems (GIS) use specialized software which students will learn. The online database used to generate scores and images will be tens of gigabytes in size, or more. Advanced students may also delve into machine learning for image classification (optional).

   o **Project Background:** Urban nature is important for sustainable cities—vegetation absorbs air pollutants, reduces global warming and urban heat island effect, soaks up stormwater, and provides other benefits. In addition, it benefits people—vegetation reduces stress, improves student learning, and raises property values. However, today real estate developers and urban planners cannot measure the value of urban nature, so it is often neglected. Quantifying nature will enable developers and planners to increase urban nature by allowing benchmarking, goal-setting, and measuring its economic value.

   o **Tools and Equipment Provided:** ArcGIS software (free to all UCB students); Access to Street Nature Score database and website.

• **Project Objective/Deliverable:** Start a small company that does good for people and the planet. Encourage urban nature by expanding Street Nature Score data to capture the 100 largest cities in the US. Use GIS software to convert satellite maps to an SQL database. Speak with realtors, urban planners, and grant agencies to prototype revenue models that also serve the project's sustainability goals. Advanced students may also use artificial intelligence algorithms for image classification to improve data quality (optional), and/or enter startup competitions (optional).

• **Ideal Team Size:** 3-5 people

• **Skill Set Needed:** Minimal familiarity with MySQL; AI image classification (optional); ArcGIS (can learn in project); AI image classification (optional).

• **Additional Uploaded Documents:** http://faludidesign.com/TEMP/Fung/SNS/