

# Emmanuel Eppinger

## CMU SCS '21

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### Summary

- Carnegie Mellon (CMU) School of Computer Science (SCS) Class of 2021
- Developed patent-pending method of covering reservoirs to prevent evaporation in drought ridden areas at factor of 10 less cost
- Modeled gentrification in real time (monthly) using Zillow housing data
- Developed method for measuring location on CMU campuses using WiFi metadata

### Education

Carnegie Mellon School of Computer Science, May 2021/ Bachelor of Science in CS, Minor ML (Intended)

Relevant Coursework:

Principles of Imperative Computation (15-122)  
Mathematical Foundations for CS (15-151)

Great Practical Ideas for CS (15-131)  
Matrices and Linear Transformations (21-241)

### Experience

CMU SCS's Mobile Commerce Lab / Web Developer

June 2017 - August 2017, Pittsburgh

Developed method for measuring location inside of buildings on CMU campuses using WiFi point metadata, allowing for more accurate location measurement inside buildings where normal GPS is inaccurate under normal circumstances.

CMU SCS's Personal Robotics Lab / Intern

June 2016 - August 2016, Pittsburgh

Intern at the Personal Robotics Lab in the CMU SCS Robotics Institute. Used ROS to complete projects in Shared Autonomy and Human Computer Interactions using machine learning and facial recognition.

### Projects

Passive Self-Tessellating Unit as Cost Efficient Reservoir Cover

[goo.gl/LhvchB](https://goo.gl/LhvchB)

Developed cost efficient reservoir cover for drought stricken and water scarce areas to reduce water loss due to evaporation. Solution costs one tenth of current comparable solutions. Achieved this by designing a self-assembling reservoir system with no moving parts nor electronic components. Patent Pending.

Using Zillow Housing Data to Identify and Predict Gentrification

[goo.gl/1bUoLQ](https://goo.gl/1bUoLQ)

Developed a unique Gentrification Index that quantifies gentrification in a geographical region. Allows for gentrification to be identified historically and potentially allow for gentrification to be identified as it occurs. Recognized by Allegheny County Executive: Rich Fitzgerald, Pittsburgh Dataworks, Pittsburgh Supercomputing Center, CMU SCS, and IBM Watson Research Lab.

Pittsburgh Parking Optimization Smart Phone Application

[github.com/eppingere/park-opt](https://github.com/eppingere/park-opt)

Developing an Android app that uses a device's GPS location to determine most efficient parking location. Previously worked on method for interfacing with ParkPGH app to enable users extended parking times and decrease parking rates in the City of Pittsburgh.

### Patents

Embedding Ads into User-Generated Content in Real-Time (Provisional)

Allows users to experience ads in a more natural way by allowing the branding of one company to be swapped for that of another in images.

Using Capacitor for Dielectric Transport (Provisional)

Potential application in boat motor with no moving parts.

Passive Self-Tessellating Unit as Self-Assembling Reservoir Cover for Evaporation Reduction in Drought-Ridden Areas (Provisional)

Allows municipalities to cover reservoirs to reduce evaporation a one tenth the cost of similar methods

### Extracurriculars

August 2017 - Current, Pittsburgh

Varsity NCAA Swimming, 3-time AMS Scholastic All-American, 5-time Speedo Sectional Series Finalist

NAQT Quiz Bowl: part of 9th ranked team in US in 2017, 8th Individual at PA State Championship 2015

### Skills

CS: Python, Java, C, C++, Julia, HTML/CSS, SQL, LaTeX, ROS, Linux, flask, git, Fastboot/ADB, Ionic Framework, Matlab, Maple

Engineering: AutoCAD, AutoDESK Inventor, Fusion 360, Tableau

Other: MS Office, Hairdressing