

Spencer Ng

North Brunswick, New Jersey | spencerng.net | sng1488@gmail.com

SUMMARY

Developer specializing in Android and backend development with experience in robotics and ECE. Seeking software and research internships for summer 2019.

EDUCATION

MIDDLESEX COUNTY ACADEMY

ELECTRICAL & COMPUTER ENGINEERING MAJOR
September 2015 - June 2019
Cumulative GPA: 4.0/4.0

MIDDLESEX COUNTY COLLEGE
DUAL ENROLLMENT | EDISON, NJ
September 2018 - June 2019

SKILLS

LANGUAGES

Fluent:

Java • Python • C++
English • Cantonese

Familiar:

JavaScript • HTML • CSS • C#
Assembly • MATLAB • Lua • \LaTeX

LIBRARIES

OpenCV • Google APIs • ROS
Android SDK • .NET • and more...

TOOLS

Proficient:

Git/Github • Adobe Creative Suite

Familiar:

MkDocs • Multisim • Defold • Swagger

COURSEWORK

DC & AC Circuit Analysis
Object-Oriented Programming in C++
Digital Electronics
Assembly & Microcontrollers
Communications • Signal Processing
Linear Algebra • Discrete Math

HONORS

Top 10%, NJ HS Physics League, 2018
Commended, National Merit Scholar
AP Scholar with Honor
National & Spanish Honor Societies

PROJECTS

RAIDER ROBOTIX | STRATEGY & SCOUTING SUBTEAM LEAD

North Brunswick, NJ | Sept. 2015 - Present

- Lead, train and assess 30+ scouts on annual FIRST Robotics Competition game
- Develop and maintain an **Android app** to collect and serialize data into JSON, to be sent via Bluetooth to **desktop Java client** and **Tableau** for analysis
- **Publish website** with Java and Android exercises to teach new members
- Mentor elementary school students to strategically design, build, and program robots using LEGO Mindstorms to compete in mentor-designed challenge
- Build **Java library wrapper** for **The Blue Alliance API** with Gson
- Mount Olive (2017 & 2018), Montgomery (2017 & 2018), and Hatboro-Horsham (2018) District Event Winners
- FIRST Mid-Atlantic District Championship Finalists, 2016 & 2018
- FIRST World Championship Division Semifinalists, 2017 & 2018

MIT BEAVER WORKS UNMANNED AERIAL VEHICLE RACING

Cambridge, MA | Summer 2018

- Developed localization, vision, and control algorithms with Python and ROS
- Navigated Intel drones autonomously without use of motion-capture or GPS

LOAD | PENNAPPS XVIII TOP 30 HACK

Philadelphia, PA & Edison, NJ | Sept. 2018 - Present

- Built Android application to recognize laundry tag symbols on clothing items using machine learning models trained with Google Cloud's AutoML Vision API
- Developed algorithm to optimize laundry loads based on scanned items
- Currently creating an embedded Internet of Things laundry hamper with a companion app allowing families to register clothing items with NFC tags

SYNAPTIC GESTURES | PENNAPPS XVII TOP 30 HACK

Philadelphia, PA | Jan. 2018

- Built user-friendly desktop interface with Electron to execute custom macros via AutoHotKey based on gesture direction and number of fingers on touchpad
- Wrote low-level C++ driver to programmatically read Synaptic touchpad input

ACTIVITIES

CHINESE HERITAGE SCHOOL OF NJ | TEACHER ASSISTANT

South Brunswick, NJ | Sept. 2017 - Present

- Facilitating student learning and assessment in the classroom
- Created classroom activities/games and promotional videos for the school
- Overseeing logistics for annual stage events as Stage Manager

MAGIC (PERFORMING ARTS) | PERFORMER AND INSTRUCTOR

New Jersey | Oct. 2015 - Present

- Developed & teaching a 20-week sleight of hand magic course to children 10+
- Volunteer & freelance performer at community events and birthday parties

MCA MATH LEAGUE | CENTRAL JERSEY ARML TEAM CAPTAIN

Edison, NJ | Sept. 2015 - Present

- Participated in over 30 contests and developed in-school contests
- 5th Place Region, B Division, American Regional Mathematics League, 2018
- Honorable Mention (13th Place & Top 2%), MathCon National Finals, 2018