

# 2021 IEEE ISEC

## (Best Paper Award – Full Papers)

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### 1st Place

Implementing Blended Learning in K-12 Programming Course: Lesson Design and Student Feedback  
Shuhan Zhang (The University of Hong Kong, Hong Kong); Chunyu Cui (Tencent Holdings Ltd., China)

### 2nd Place

Using Coding Competitions to Develop STEM Skills in Graduate Education  
Andres Fortino and Maria Rivera (NYU, USA)

### 3rd Place

Training Workers to Thrive in Future Technology-Driven Environments: A Blueprint  
Wenbing Zhao (Cleveland State University, USA)

# 2021 IEEE ISEC

## (Best Paper Award – Work in Progress Papers)

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### 1st Place

Instill Autonomous Driving Technology into Undergraduates via Project-Based Learning

Weitian Wang and Laura Paulino (Montclair State University, USA)

### 2nd Place

Fine-grained Analysis of Gender Bias in Student Evaluations

Eric M Dillon, Haroon Malik and David Dampier (Marshall University, USA); Fatma Outay (Zayed University, United Arab Emirates)

### 3rd Place

StartlearnING- an example for cross-domain learning arrangements combining engineering and biology

Markus Reiser, Martin Binder and Holger Weitzel (Weingarten University of Education, Germany)

# 2021 IEEE ISEC

## (Best Poster Award - Category - Biology/Medicine)

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### 1st Place

Covid-19 Case Prediction using Nesting Fitting

Bomin Wei (Princeton International School of Mathematics and Science, China)

### 2nd Place

Predictive Analytics in Agriculture using Geospatial Mapping

Sreya Jonnalagadda (Princeton International School of Mathematics and Science, USA)

### 3rd Place

Novel application to improve communication for children affected by Autism Spectrum Disorder

Veda R Murthy (Rachel Carson School, USA)

# 2021 IEEE ISEC

## (Best Poster Award - Category - Computer Science)

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### 1st Place

Comparison of effectiveness of Machine Learning algorithms for Vehicle Path Prediction

Sumanth R Moole (TJ USA)

### 2nd Place

Smart City Overview

Syeda J Zeeshan (Atholton High School, USA); Jeffrey Chavis (Johns Hopkins University Applied Physics Laboratory, USA)

### 3rd Place

Comparing Grover's Quantum Search Algorithm with Classical Algorithm on Solving Satisfiability Problem

Runqian Wang (Princeton International School of Math and Science, USA)

# 2021 IEEE ISEC

## (Best Poster Award - Category - Engineering)

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### 1st Place

Desalination and Purification of Water using a Solar Powered Hydrogel Multistage

Kevin A Murphy (PRISMS, USA)

### 2nd Place

Design and Testing of Solar Power Heating

Victor I Robila (Hunter College High School, USA)

### 3rd Place

A Design of the Extrusion System for Chocolate 3D Printing

Hong Jiang (Princeton International School of Mathematics and Science, China)

An Autonomous Driving Simulation Platform as a Virtual HSAVC Competition Environment

Daren Hua (Eleanor Roosevelt High School, USA)

# 2021 IEEE ISEC

## (Best Poster Award - Category - Social Study Interdisciplinary)

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### 1st Place

Consumer Barriers For The Adoption Of Climate Friendly Packaging In Mercer County

Inara D Jain (Princeton High School, USA)

### 2nd Place

Edison High School WiSTEM | FOCUS: Addressing Female Underrepresentation in STEM

Vasumathi Venkat (Edison High School & WiSTEM | FOCUS club, USA); Ishani Kunadharaju (Edison High School & WiSTEM | FOCUS club, USA)

High School STEM Clubs In A Virtual World

Anastasia A Ibrahim (Edison High School & iSTEM Club, USA); Sunrit Panda (Edison High School & TEDxEdisonHighSchool, USA); Gunjan Adya (Edison High School & iSTEM Club, USA)

### 3rd Place

Analysis and Construction of a Small International High School's Social Network

Kavin S Sankar (Enloe High School, USA)

Sensitivity of Voter Turnouts in Presidential Elections - An Analysis

Daniella Reyes (Princeton International School of Mathematics and Science, USA)

# 2021 IEEE ISEC

## (Best Poster Award - Category - Higher Education)

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### 1st Place

Exploring ethics in IoT-based smart cities

Michelle S Feng and Jeffrey Chavis (Johns Hopkins University Applied Physics Laboratory, USA)

Household 3D Cream Printer for Cake Decoration

Junjing Zeng (Branksome Hall, Canada); Fangzhou Xia (Massachusetts Institute of Technology, USA)

### 2nd Place

Low-cost Portable Ventilator Design for Underdeveloped Regions

Rui Wang (Renmin University of China, China); Fangzhou Xia (Massachusetts Institute of Technology, USA)

# 2021 IEEE ISEC

## (Best Poster Award - Category - Math Sub-Session)

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### 1st Place

The Math Behind Piano Chords

Zuko A Ranganathan (Hart Magnet School, Stamford CT, USA)

### 2nd Place

The Fibonacci Sequence and The Golden Ratio in Math and Music

Nicole E Vassilev (Princeton High School, USA)



# 2021 IEEE ISEC

## (Best Poster Award - Category - Physics)

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### 1st Place

The Floating Compass: A Demonstration of Electromagnetism and Lenz's Law  
Helena Rittenhouse (Princeton University EPICS, USA)

### 2nd Place

Franklin's Bells: Converting Electrical Energy Into Continuous Mechanical Motion  
Stella C Firmenich (Engineering Projects In Community Service, Princeton University & Stuart Country Day School of the Sacred Heart, USA)

### 3rd Place

Magnetic Levitation in Motion  
Jesse Miller (USA)

# 2021 IEEE ISEC

## (Best Poster Award - Category - Science )

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### 1st Place

Guide-Bot

Rishi Balaji (Gates Elementary School, USA)

### 2nd Place

Photophone Re-invented

Roshan S Natarajan (Whittle School and Studios, USA)