

Here's what has happened in the last month and what's to come!

Welcome to our monthly newsletter. In this issue we present you with news happening around STEM education and technology. Packed with exciting updates, valuable insights, and exclusive offers, this newsletter is designed with you in mind. Each month, we'll bring you the latest news, tips, and highlights to keep you informed and inspired.

In this newsletter you can expect:

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- TOP 3 Technology / EdTech/ STEM Updates

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- Message from Founder

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- Stories of Impact

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- EIM Technology Core Value

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- Our Next Project

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- Our Trending Product
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1) Codio introduces "Coach," a cutting-edge AI-driven learning companion aimed at maximizing learner potential through augmented error messages and helpful hints.

Codio, a leading platform for computer science and tech skills education, has unveiled Codio Coach, an AI-driven learning companion designed to offer personalized guidance and error explanations using advanced generative AI technology. Learners now have access to tailored support even outside of regular office hours or when direct instructor assistance is unavailable. Coach provides carefully curated assistance to promote learning without simply providing direct answers, ensuring an authentic learning experience. Compatibility with all languages supported by Codio ensures accessibility for all users.

Research shows that coding learners spend around 25% of their hands-on time grappling with code errors. Previous attempts to address this issue with augmented error messages have fallen short due to limitations in accurately explaining errors. Codio's survey found that 92% of students perceived error messages as a hindrance to progress. With Coach, Codio has leveraged real-time context-augmented generative AI to optimize error explanations by incorporating relevant information from code files and assignment text.

Powered by Anthropic's Claude-3 models, Coach excels at handling large, structured prompts and offers comprehensive support beyond error messages. It breaks down complex tasks into manageable steps, provides summarized requirements, and offers hints on next steps using the Socratic method. These contextual hints guide students towards independent problem-solving, fostering a more approachable learning environment.

Codio's CEO, Phillip Snalune, emphasizes the company's commitment to addressing educators' challenges and enhancing the learning journey. Coach is designed to complement instructors' teaching methods and offers configurable options to ensure a human-in-the-loop approach to AI assistance, promoting ethical and authentic learning experiences.

REFERENCE:

- <https://www.newswire.ca/news-releases/codio-announces-the-launch-of-coach-an-ai-powered-learning-assistant-that-unlocks-learner-potential-with-augmented-error-messages-and-hints-828535363.html>

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2) AMD Enhances AI Capabilities with Latest Versal Series Update

AMD has recently updated the AI Engine in its second-generation Versal AI Edge Series Gen 2, incorporating post-processing capabilities to streamline an application's entire data path onto a single silicon chip.

Manuel Uhm, director of Versal marketing at AMD, highlighted that the integration of data pre-processing reflects the Xilinx heritage, which AMD acquired in 2022. Uhm explained that while other non-adaptive SoCs typically rely on separate components for pre-processing and inference, AMD's approach combines both functionalities within the Versal AI Edge series.

He noted, "Another approach, which customers are taking with our first-gen Versal AI Edge parts, is using programmable logic for pre-processing and the inference on the AI Engines, but then have a separate CPU or MPU, and there's a lot of overhead associated with doing that."

The first-gen Versal AI Edge offered pre-processing capabilities through its programmable logic block, with AI inference accelerated by AMD's on-chip AI Engine. In the second-generation series, embedded Arm CPUs have been integrated for post-processing, further enhancing the efficiency of data processing tasks.

REFERENCE:

<https://www.newswire.ca/news-releases/mcmaster-university-and-celesta-capital-launch-partnership-to-nurture-development-of-canadian-deep-tech-startups-899496746.html>

GOOD TO KNOW LINKS:

- <https://brighterworld.mcmaster.ca/articles/mcmaster-celesta-partnership-for-deep-tech-innovation-commercialization/>

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3) Precision Laser Fabrication: Unveiling a Stretchable Rubber-Like Energy Storage Solution

Professor Yong-Young Noh from the Department of Chemical Engineering at Pohang University of Science and Technology (POSTECH), in collaboration with Dr. Ao Liu and Dr. Huihui Zhu, former postdoctoral researchers from the same department and now professors at the University of Electronic Science and Technology of China, Dr. Yong-Sung Kim from Korea Research Institute of Standards and Science, and Dr. Min Gyu Kim from the Pohang Accelerator Laboratory, have achieved a significant breakthrough in semiconductor technology. Their research, published online in Nature, introduces a high-performance and highly stable p-type thin-film transistor (TFT) utilizing a tellurium-selenium composite oxide semiconductor material.

Semiconductors are integral components in nearly all electronic devices, including cell phones, PCs, and automobiles. They are broadly categorized into crystalline and amorphous semiconductors, with crystalline semiconductors exhibiting a well-ordered atomic structure and amorphous semiconductors lacking such regularity. While amorphous semiconductors offer simpler fabrication methods and reduced costs, they often suffer from inferior electrical performance.

Advancements in p-type amorphous semiconductors have been slow, with challenges hindering their development compared to n-type oxide semiconductors like indium gallium zinc oxide (IGZO), widely used in OLED displays and memory devices. The research led by Professor Noh addresses these challenges, achieving remarkable hole mobility and on/off current ratio in their TFTs, comparable to conventional n-type oxide semiconductors.

Furthermore, the team's TFTs exhibit exceptional stability under various external conditions, including voltage and current fluctuations, air, and humidity. Fabricated on wafers, the TFTs demonstrate uniform performance across all components, making them suitable for reliable semiconductor devices in industrial applications.

Professor Noh emphasizes the significance of this milestone, noting its potential impact on next-generation display technologies, low-power CMOS, and DRAM memory research, as well as its broader implications for diverse industries.

REFERENCE:

- <https://www.sciencedaily.com/releases/2024/04/240424111659.htm>

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STORIES OF IMPACT BY EIM TECHNOLOGY



Empowering Canada Newcomers: Partnering with Wayble to Foster Career Development Opportunities

EIM Technology is happy to be an Employer Partner for Wayble's Career Pathway Program. EIM Technology is committed to create an impact and make meaningful contribution in the field of STEM. Wayble's Career Pathway Program likely serves as a bridge between education and employment, aiming to prepare individuals for successful careers in specific industries or fields.

In this program, we work with the Program Manager, Venky Karuppiah, to provide a two week mentorship opportunity to international students to help them adjust to the Canadian workforce. We recognize that international students can face unique challenges in adjusting to their new lives abroad. Participating in this program is just one small way that Canadian businesses can help newcomers.

A Career Pathway Program offers a structured educational and vocational program designed to help individuals progress along a defined career trajectory. The participants of the program will be associated with EIM Technology on the journey of impacting the EdTech offering we make to the learners and enthusiast out there.

OUR TRENDING PRODUCT OF THE MONTH



Field Programmable Gate Array (FPGA) Learning Kit

Our FPGA Learning kit is a comprehensive and hands-on journey curated especially for those with basic knowledge in digital logic, with a keen interest in exploring deeper into digital circuit design and FPGA technology.

Purpose of the Kit:

- **Tangible Learning:** Grasp digital circuit fundamentals with hands-on experiments using an introductory FPGA board.
- **Practical Application:** Move from theory to practical application, mastering module design like encoders and decoders in digital systems.
- **Digital Design Practice:** Understand the entire digital design process, from basic logic gates to interfacing with sensors and actuators.
- **Engaging Project:** Apply learned skills in a final digital piano project, incorporating advanced signal and DDS techniques.

What will I learn?

The extensive 200-page tutorial is replete with illustrative examples, codes, experiments, and projects. The course hardware kit includes with our unique STEPFPGA featured as "the most user-friendly board for beginners", and a comprehensive kit with assortment of components, sensors, and motors, which offers learners a tangible and engaging "learn-by-doing" experience.

What are some topics?

Most of the basic Digital circuits / digital electronics topics like logic gates, various digital modules,

building 7400 series using FPGA, Traffic light system design, learning the working of switch debouncing, interfacing with matrix keypad, and more.

> Check content of the tutorials on

<https://www.eimtechnology.com/collections/all-products/products/fpga-digital-electronics-digital-circuits-learning-kit>

Customer Feedback:

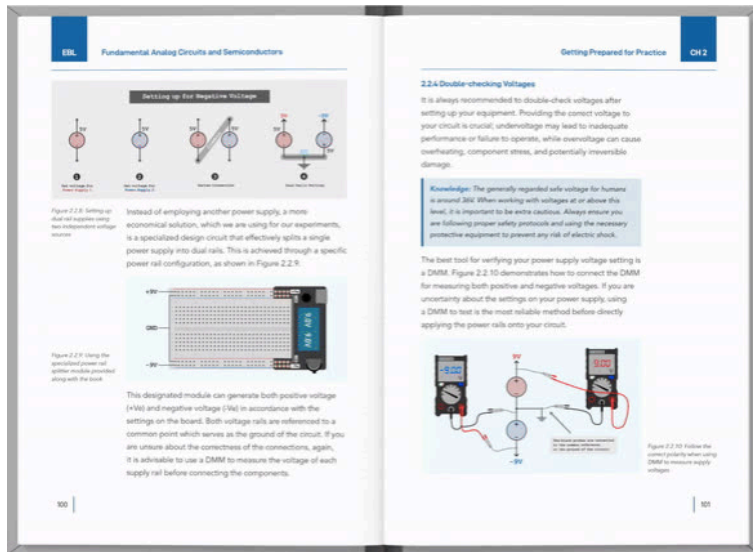
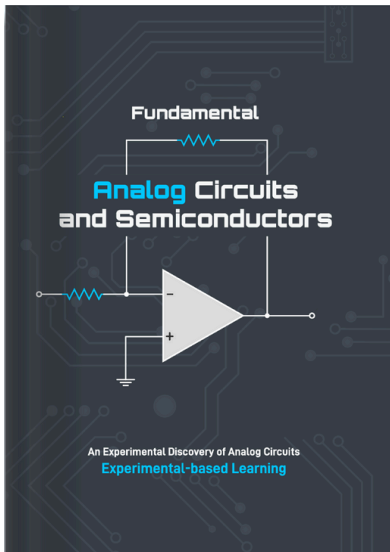
1) *"I just want to pop in to say that the company does a great job in filling a much needed niche! I'm a tech teacher and a part of my role is finding innovative learning options for my school district. I stumbled upon EIM Technology years ago and I am very pleased that they have developed into more than just a hardware manufacturer. Equipment is important but without guidance, I have found that I am hesitant to begin new projects. With my busy schedule, often things can end up on the backburner. EIM does a great job in summarizing knowledge in key and concise ways and their experiments let me build up foundational skills so I don't feel so overwhelmed with learning something new. Another thing that I feel differentiates this company from other ed-tech provider I have purchased from is that they are very open to giving me extra product support and answers to my technical questions. I can't wait to see the new projects in this book and to introduce to my class in a few months!"*

2) *"I am glad I got this. The kit is well put together and the parts and book are all great quality. I would back them again if it were for something I was interested in. I look forward to having the time to turn it on and start working through the examples."*

3) *"You guys make such amazing projects! The price point is always appropriate for the depth of the product and I love the instructional manuals. It really makes learning new skills manageable. It sure beats just watching YouTube video and trying to figure things out on my own. The building aspect really supplements my understanding. I will recommend this to everyone in my network!"*

Keep up the good work!"

Upcoming Product:



Fundamental of Analog Circuits and Semiconductors

Our upcoming tutorial book, "Fundamental Analog Circuits & Semiconductors," is set to launch soon! With 300 pages packed with valuable insights, this comprehensive resource is a must-have for electronics enthusiasts. Get a sneak peek at some of its enlightening pages!

Covering essential topics like circuit-solving skills, testing techniques, Op-amps, diodes, BJTs, and MOSFETs, this book simplifies complex concepts with 322 high-quality original images and figures. Beginners will find it easy to grasp with our clear explanations.

What's more, we've included tangible learning kits like Lab-On-The-Go, components, and modules to provide hands-on practice alongside theory.

Stay tuned for updates on our company page, and follow EIM Technology. This book concludes our Core Electronics series, offering a complete resource for enthusiasts, students, and learners alike.

The learning kit will be available in 3 variants:

1. The Fundamental of Analog Circuits and Semiconductors tutorial book.
2. The Fundamental of Analog Circuits and Semiconductors tutorial book + hardware components.
3. The Fundamental of Analog Circuits and Semiconductors tutorial book + hardware components + Lab-On-The-Go (LOTG).
>> link for LOTG - <https://www.eimtechnology.com/collections/all-products/products/lab-on-the-go-electronic-testing-tools>

Pre-book:

The product is going to be launched on our website for pre-order soon.

You can pre-book the project by contacting us on sales2eimtechnology.com or by messaging us using our chat support on www.eimtechnology.com

Message from the Founder

EIM Technology is where our passion for STEM education and technology entrepreneurship began. Founded by individuals deeply rooted in both technology and education, our vision at EIM is to revolutionize electronics education by providing comprehensive learning kits that seamlessly blend theory with hands-on practice. Understanding the hurdles beginners face – from overwhelming theory to disjointed online courses – we've meticulously designed our hardware, kits, tutorials and programs, validated by a diverse community of learners and experts. With years of EdTech experience, we recognize the barriers deterring novices: complex information, high cost and entrance barriers, and steep learning curves. It is our mission to simplify this journey, offering a clear pathway through which beginners can embark on their learning experience with confidence.

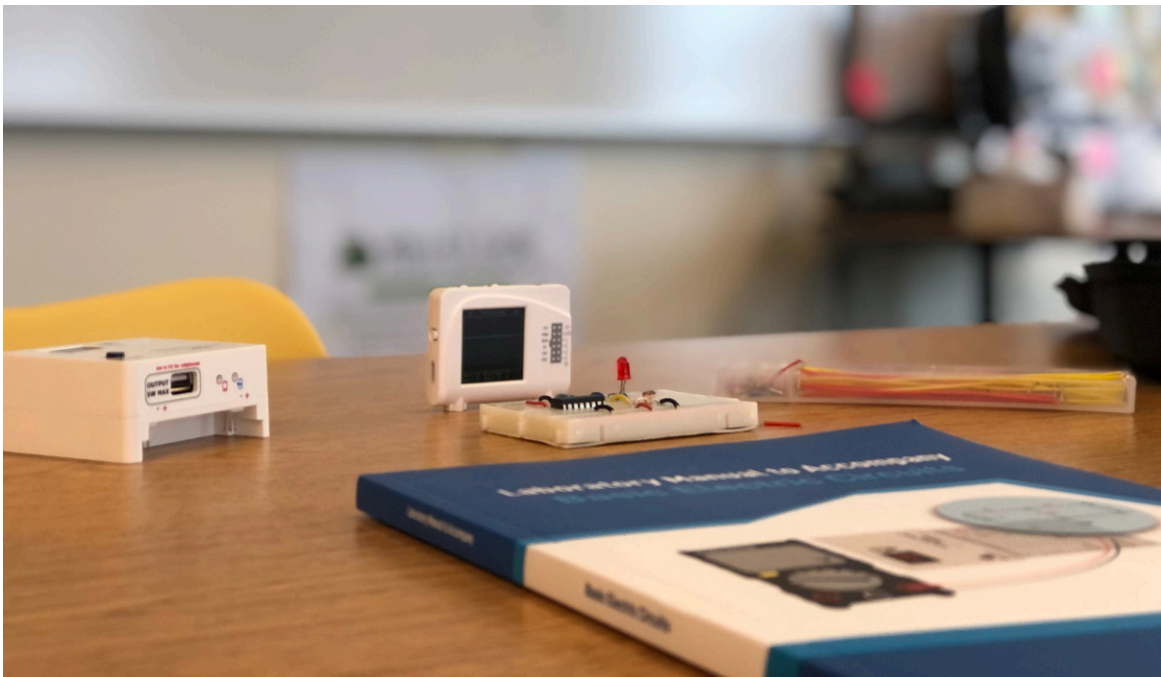
Daniel Cao
Founder of EIM Technology



EIM Technology Core Value

At EIM TECHNOLOGY, we believe that learning electronics and technology is not a privilege, but a fundamental right that should be accessible to all. Our business is built upon this principle, aiming to dismantle the barriers that impede eager beginners from engaging in this field. The value we offer is encapsulated in the accessibility, affordability, and comprehensiveness of our solutions.

We understand that for novices, the world of electronics can be daunting, riddled with high costs, complex information, and a steep learning curve. It is our mission to simplify this journey, offering a clear pathway through which beginners can embark on their learning experience with confidence.



Thank you for reading!

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