Stichting NIOC en de NIOC kennisbank

Stichting NIOC (www.nioc.nl) stelt zich conform zijn statuten tot doel: het realiseren van congressen over informatica onderwijs en voorts al hetgeen met een en ander rechtstreeks of zijdelings verband houdt of daartoe bevorderlijk kan zijn, alles in de ruimste zin des woords.

De stichting NIOC neemt de archivering van de resultaten van de congressen voor zijn rekening. De website www.nioc.nl ontsluit onder "Eerdere congressen" de gearchiveerde websites van eerdere congressen. De vele afzonderlijke congresbijdragen zijn opgenomen in een kennisbank die via dezelfde website onder "NIOC kennisbank" ontsloten wordt.

Op dit moment bevat de NIOC kennisbank alle bijdragen, incl. die van het laatste congres (NIOC2023, gehouden op donderdag 30 maart 2023 jl. en georganiseerd door NHL Stenden Hogeschool). Bij elkaar bijna 1500 bijdragen!

We roepen je op, na het lezen van het document dat door jou is gedownload, de auteur(s) feedback te geven. Dit kan door je te registreren als gebruiker van de NIOC kennisbank. Na registratie krijg je bericht hoe in te loggen op de NIOC kennisbank.

Het eerstvolgende NIOC vindt plaats op donderdag 27 maart 2025 in Zwolle en wordt dan georganiseerd door Hogeschool Windesheim. Kijk op www.nioc2025.nl voor meer informatie.

Wil je op de hoogte blijven van de ontwikkeling rond Stichting NIOC en de NIOC kennisbank, schrijf je dan in op de nieuwsbrief via
www.nioc.nl/nioc-kennisbank/aanmelden nieuwsbrief

Reacties over de NIOC kennisbank en de inhoud daarvan kun je richten aan de beheerder:
R. Smedinga kennisbank@nioc.nl.
Vermeld bij reacties jouw naam en telefoonnummer voor nader contact.

Keynote CSERC: MOOC-Apocalypse

Fight the MOOC-apocalypse! And Reflections on the Apria of Learning
Door: Fred G. Martin.

Wolff-Michael Roth introduced the term 'Apria' to refer to the paradox of being a learner: how can we intentionally direct ourselves toward learning something new, when we necessarily do not yet understand – nor are we even able to perceive – the very thing that we seek to know?

Roth studied this in the context of high school students learning physics, showing how students were unable to draw the expected pedagogical lessons from classroom physics demonstrations. Because the students had not yet developed the underlying conceptual physics understandings, they literally did not perceive the behaviors of the instrumental apparatus as intended.

In the field of computer science, many of us have been surprised by the lasting result of the Rainfall problem, originally constructed and studied by Elliot Soloway. This work demonstrated the difficulty that beginning computing students have in composing a program that involves a loop, summation variable, and sentinel exit value.

As computer scientists, we are surprised when we learn of the enduring result of Soloway's work, because the rainfall problem seems so easy. But this is because we've completely forgotten our own earlier novice minds, and we can't imagine not knowing how to immediately solve what appears as a trivial problem. As a pathology, psychologists refer to this as 'psychogenic amnesia',' but constructivists recognize this as a common aspect of learning.

These two challenges go hand in hand: the fundamental Apria of learning, and our own forgetfulness of learning afterward. We often pay attention on improving our teaching, but here, I will focus on the experience of being a learner in computer science. I will present a personal learning story of two years of effort in coming to understand Bayes Nets and Hidden Markov Models, a flipped classroom learning environment I created with one of the seminal MOOCs (Thrum and Nerving's Fall 2011 AI Class), and two very different 'Computing I' courses.

Mark Audial has highlighted the looming 'MOOC-apocalypse' – the belief that a combination of video lessons, auto-graded assignments, and discussion forums can provide adequate learning environments for our students, coupled with academic leadership taking action on this belief by replacing conventionally-taught courses with MOOCs. While there is evidence that MOOCs are effective for advanced, 'auto-didactic' students, the evidence that MOOCs work for beginning or less self-directed learners is scant (if it exists at all). And when we look broadly across our student body, it's apparent that we have many more beginning students than advanced ones.

Ultimately, Fred Martin would argue that learning is messy, unpredictable, frustrating, and basically not at all fun – until it turns into elation and joy. Our beginning students deserve better than MOOCs: they deserve our personal attention. By better understanding the true nature of learning, we will be more able to make this case.

[www.nioc2013.nl: CSERC2013_presentation_Fred_Martin.pdf]