The Journal of the Association for Computing Machinery at UIUC: The

Banks of the Boneyard

Volume 16, Issue 1

From the Chair

by Paul Swanson

Recently I've been reading about Nikola Tesla, the unsung hero of American power around the turn of the century. A fastidiously neat loner who preferred to do his amazing research by himself, he invented polyphase alternating current, the induction motor, fluorescent lighting, and long distance wireless communication. Some of his results (the research of which unfortunately was destroyed by Tesla himself) cannot be duplicated to this day.

Tesla's life is marked alternately by periods of amazing discovery and extreme poverty. In fact, the eccentric genius spent the latter half of his life trying to find investors, evading bill collectors, and defending his more than 700 patents. With a reliable laboratory and funding, as well as confidantes and other friends to share ideas with, he almost certainly could have accomplished much more than the immense amount he already did.

If only Tesla had access to an organization like the Association for Computing Machinery here at the University of Illinois. ACM@UIUC has an established laboratory and presence with the University, other engineering organizations on campus, and several major corporations. We provide a wonderful environment for software and hardware development, an extensive library of computer materials, and often we just kick back with some social activities (movie nights, picnics, and much more). Our office is occupied days, nights, and weekends with some of the best minds in computer science and engineering at the University.

So don't pull a Tesla and keep yourself locked up in your personal laboratory the next few years. Come visit ACM@UIUC on Quad Day (August 29, before classes start) and see what we have to offer. Even if you don't see us on Quad Day, stop by our office (conveniently located at 1225 DCL, on the main floor) anytime on your way to class. I think you'll be pleasantly surprised.

In This Issue:

What fields interest you the most?

As the year kicks off, the ACM's many Special Interest Groups (SIGs) begin their projects and workshops, accommodating a wide variety of computer-related interests. Whether you're a freshman neophyte or consider yourself an old pro, you'll be amazed at how much you can learn from these groups!

Sigs:

Random stuff I wish I had known when I got to UIUC

by Jason Luther

A lot of this stuff seems like common sense, and a lot of it you probably already know. These are just a few things that I found to be really useful by the end of my first year. I hope at least one of them will make your adjustment to the campus a little easier.

The Association for Computing Machinery:

ACM is a nice place to hang out. People are always glad to answer your questions, and they order food a lot.

ACM has old CS exams available for checkout.

There are fun toys in the office.

The North Campus:

There is a nice cafeteria at Beckman, the northernmost building on the campus (and a short walk from DCL).

The CCSO resource center is where you go when you forget a password or need to get software for your computer. It is in 1420 DCL.

Busses:

The 22 Illini that picks you up in front of the Illinois Street Residence halls takes one of two routes. Neither will get you north of ISR until going around the entire campus.

Your ID will get you on any MTD bus. You don't have to show your ID to get on any campus busses.

General Education Requirements:

http://www.engr.uiuc.edu/Advising/gen.html tells you what general education requirements a class satisfies for the College of Engineering. Some classes can count for more than one requirement.

http://www.uiuc.edu/colleges/provost/gened.html tells you what the University requires.

Campus Computing:

CCSO has a site license for a lot of software, including the full version of Eudora, and all of the Macintosh system software.

You can get a lot of good-quality used computer parts for low prices. Read the uiuc.classifieds.computer newsgroup.

Computer Science:

CS classes don't waste much time on things that they don't think are important. What you don't understand, you should figure out because it will appear on the final.

Studying for CS classes is a lot easier when you study with other CS majors.

ACM is your friend in the CS department. The projects you can do with ACM will apply what you learn in class, and we have people who have been through your class already.

Miscellaneous:

You will overcommit yourself on Quad Day, so don't feel too bad when you realize that you don't have enough time to save the rain forests, volunteer for six charities, book acts at the Union, and jump out of airplanes.

Having a car is nice when you need to get off campus, but you won't want to use it to get around campus.

Join ACM, and good luck!

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or visit our homepage at `www.acm.uiuc.edu`

The newsletter staff encourages ACM members to submit letters to the editor, articles, photographs and artwork for future issues of *The Banks of the Boneyard.* If you would like to contribute or participate in its creation, please email `boneyard@acm.uiuc.edu`.

DON'T MISS THIS CHANCE: THE CS MENTOR PROGRAM!

Let CS alums in the "real world" be your personal guide to life by joining the CS Mentor Program. Get advice on classes to take, how to find a job, industry trends, you-name-it, all while improving your networking skills. Students and mentors are matched according to background and interests; most contact is via e-mail. If you don't receive the signup form in September, send e-mail to alumni@cs.uiuc.edu. Sponsored by the CS Alumni Association and the Department of Computer Science.

by Brian Burgner

This year, the Special Interest Group for Computer Architecture has some exciting projects lined up. Over the summer, we were able to acquire a StrongARM microprocessor thanks to the generosity of Digital Equipment Corporation. This chip is a 200 MHz RISC chip that can be powered by 2 AA batteries. Due to this low power requirement, we can make some very portable projects. Currently, we are looking at portable MIDI trackers as well as some voice recognition/processing applications.

New for this year is a partnership with SigArt, the Special Interest Group for Artificial Intelligence. By pooling our resources, SigArch and SigArt are looking into projects ranging from simple AI in games to a fully autonomous robot. Due to the size and complexity of these projects, both SigArch and SigArt are always looking for new members.

SigArch meets at 6:00 P.M. on Thursdays in L510 DCL. If you're not sure where that is, the ACM members at the ACM Office, 1225 DCL, can direct you there.

For more information, email sigarch@uiuc.edu, or see

http://www.acm.uiuc.edu/sigarch

by Wyatt Haase

Are you interested in virtual reality, 3-D animation, 3-D art or anything buzz-wordy on the Web? VR on the Internet is becoming more and more prevalent. 3-D is the language of our minds that facilitates visualization, and now computers on the Web have the horsepower to support it. VRML2.0 is VR on the Internet. Most of the VRML on the Web today is terrible, but this is changing. Soon VRML will be as common as HTML. One can animate anything from colors to a bouncing ball to a running man. Objects can even be morphed. 3-D spatial sounds can accompany animations or serve as an ambient background sound. Colors can be animated as well.

Several forms of multimedia can serve as textures on shapes. MPEG1 with or without audio can be embedded onto the face of an object or suspended in the virtual air. The audio from the movie file can be spatialized in synchronization with the movie. JPEG, PNG, and GIF are the static formats supported in the same manner. As the use of VRML develops there will be more formats available.

Now here is where the possibilities really expand: VRML handles events, meaning that a VRML world can respond to user input. Event handling presents possibilities for 3-D toolbars, doors and a host of other applications that make the VR environment more interesting and useful.

Another way interactivity can be implemented is with Java scripting. Using events and Java scripting, one can create games or 3-D tutorials. Why is such a complex environment realistic for the Web right now? Well, it is and it isn't. VRML files are relatively small, which makes them easy to download. The only requirements are that the 3D objects need time to render and the other elements (GIFs, WAVs, etc.) need time to download.

SigVR has recently received funding from Kinetix (the makers of 3D Studio MAX) and SGI.

If you are interested in VRML and virtual reality, ask about SigVR at ACM's Quad Day Booth, and come to the first General Meeting. We look forward to seeing you.

For more information, send email to: w-haase@uiuc.edu, or see

http://www.acm.uiuc.edu/sigvr

Stretch your Web-legs, and check out:

www.acm.uiuc.edu

Go DEC!

SigArch thanks Digital Equipment Corporation for its donation of the StrongARM microprocessor

Yay DEC!

BUG@UIUC

by Jason Luther

The BeOS is a powerful operating systems that runs on PowerPC-based Macintosh computers and clones. The Be Users Group meets once a week to discuss all things Be. If you haven't ever heard of Be, come by and learn about it.

What's in store for this semester

• Make your own Be application: The *Hello, World!* series of workshops will guide you through the application development process.

• DHCP *or* How not to get your port shut off in the dorms: The BUG tries to implement it's own version of the dynamic host configuration protocol client.

• Holy Wars: discussions about the BeOS versus other operating systems.

The BUG is always on the lookout for fun things to do, so stop by our meeting. The most current information, including meeting times, is on our web page: www.acm.uiuc.edu/bug. If you have questions, mail: bug@acm.uiuc.edu

http://www.acm.uiuc.edu/bug/

Be sure not to miss the ACM's beginning-of-the-semester activities:

Friday, August 29th, Quad Day.

Stop by the ACM's booth on the Quad to speak firsthand with representatives from different SIGs (Special Interest Groups) and see what we're about.

Thursday, September 4th, our first General Meeting

On the first Thursday of classes, take a much needed break, and come by 1320 DCL at 5:00 for our first General Meeting. Find out more about us, and get

FREE PIZZA AND POP!

MacWarriors

by Vikram Adukia and Steven Bytnar

The MacWarriors are a group of Macintosh enthusiasts who like to meddle in anything and everything that is Macintosh. Being a subgroup of the ACM, we have a wide variety of resources, such as a few of the *Inside Mac* volumes. With this and our other available resources and knowledge from the local Macintosh community, we have been working on various programming projects over the past year.

Thanks to sponsorship by Ambrosia Software, we are currently working on a plug-in for *Escape Velocity* and learning about ResEdit at the same time. ResEdit, in case you did not know, is a powerful Macintosh Developer's Utility that can be put to all sorts of use. Ever want to change the text in a dialog box? Well, thanks to ResEdit, you can do so in just minutes.

Other projects in the works include Warriorplay, an MPEG Layer 3 decoder for the Macintosh. Warriorplay was our first group MacOS project this year. Started by Mike Bytnar, it is MacWarriors' attempt at releasing the world's first Macintosh MP3 audio file player that "doesn't SUCK". It is based upon Windows 95 C++ source code, so a future project includes coordinating a MacOS/Windows porting session with the WinDevils.

However, the MacWarriors are not only about projects - we like games as well. One of our favorite stress-relievers is to have a nice little Marathon II tournament. What a better way to relieve stress than to shove a zeus-class fusion pistol down a friend's throat and send him to oblivion? In a virtual sense, I mean. Not to worry, your "friend" will be back in a minute with more weapons to take you on again. If, on the other hand, you go in for a bit more strategy, we also have people on WarCraft II sending orcs and knights after each other.

Now, on to the future! This coming year, we look forward to setting up various workshops and discussions concerning the MacOS. With the upcoming release of Rhapsody, the joining of NeXTStep with MacOS, we look forward to seeing how the integration with the current MacOS goes and where Apple might be going in the future.

http://www.acm.uiuc.edu/sigmicro/macwarriors

SigArt: The Artificial Intelligence Frontier

by Misha Voloshin

When Gary Kasparov said he felt an intelligent, reasoning consciousness from his opponent, the figure on the other side of the chessboard was not that of a fellow grand-master, but of a machine. There was a time when nobody believed that a computer could exhibit the "thinking" skills required to play a decent game of chess, but today's world champion is Deeper Blue, IBM's massively-parallel A.I. construct.

But Deeper Blue is not the only A.I. to make headlines. Perhaps you've heard of MIT's robotic insect colonies, whose six-legged members teach themselves to walk and then to cooperate as a team. Or Carnegie-Mellon's autonomous car, which cruises driverless down the highways of Pittsburgh. Or the neural network chip recently marketed by Nestor Corporation for high-performance optical recognition.

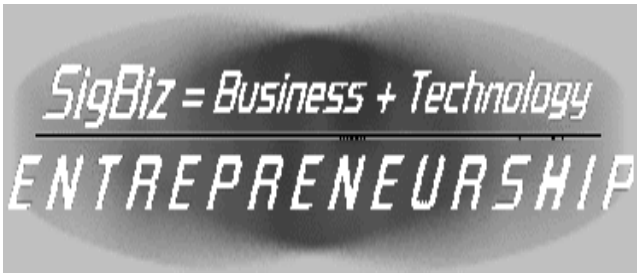
With this rate of growth of the A.I. field, one is forced to wonder how far we can go, both on technical and philosophical ground. After all, according to Arthur C. Clarke's classic novel, *2001: A Space Odyssey*, HAL was supposed to be assembled right here at the University of Illinois in January of 1997. Can we ever hope to create a computer like HAL from 2001, or SkyNet from the Terminator movies, or even Rudy from the Jetsons? And, with background such as HAL and SkyNet, would we really want to?

It is these kinds of questions that we ponder at SigArt. Every Thursday at 7:00 P.M., we gather to trade information and work on projects. We provide a learning forum for those who are new to A.I., as well as a circle of discussion for those who have had more experience in the field.

If you fantasize about the far-reaching future of computing, if you ponder the construction of knowledge bases and neural networks, if you question the barrier between man and machine, then SigArt is where you should be.

Come to 1330 DCL. at 7:00 P.M. on Thursdays to join in the excitement. More information is available by emailing sigart@uiuc.edu. The future awaits!

http://www.acm.uiuc.edu/sigart



by Justin Kuntz

IBM, Apple, Microsoft, Motorola, HP, Sun — some of the largest and most successful companies ever.

What driving force was responsible for the creation of these entities? Entrepreneurship.

In each case, only a handful of people ensured the success of the company: Tom Watson at IBM, Steve Jobs and Steve Wozniak at Apple, Bill Gates and Paul Allen at Microsoft, etc.

If you find these type of people and the companies they build fascinating, SigBiz is for you. SigBiz is ACM's group for those interested in both business and technology. Some of the topics we cover include:

- starting and running your own business
- meeting other startup-minded peers
- successful marketing and financing activities

The group meetings are tentatively scheduled for Mondays at 8:30pm in 1225 DCL (the ACM office). For more information or to join SigBiz, e-mail sigbiz@uiuc.edu or visit

http://www.acm.uiuc.edu/sigbiz/

We hope to see you soon!

Save Paper: Read the Banks Online at:

www.acm.uiuc.edu/banks

"Just what do you think you're doing, Dave?"

-HAL, 2001: A Space Odyssey

SigDave

In Search of a Mission

by Michael Kolb

Greetings, and welcome to uiuc! I'm Michael Kolb, and as chair of SigDave this semester, I'd like to take this opportunity to invite you to become part of the student chapter of the Association of Computing Machinery here at the University.

What ***is*** SigDave, you ask? SigDave is the newest special interest group in ACM@UIUC — and no, D.A.V.E. doesn't stand for anything. In fact, the name is kind of a misnomer — it's more of a general interest group. While other groups within ACM@UIUC focus on one particular area of technology, or one particular operating system, the idea behind SigDave is that the group is free to explore many different areas — whatever ideas we may fancy at the time, without delving too deeply into the subject to make it difficult.

Sound like a good place for beginners? Well, we hope so. This is only SigDave's second semester, and we need people like you with fresh ideas who want to learn about cool technology. If you're interested, email me at m-kolb@uiuc.edu, or stop by our meetings, Wednesdays at 8:00 PM in 1102 DCL. Also, be sure to stop by the ACM office and find out more about us.

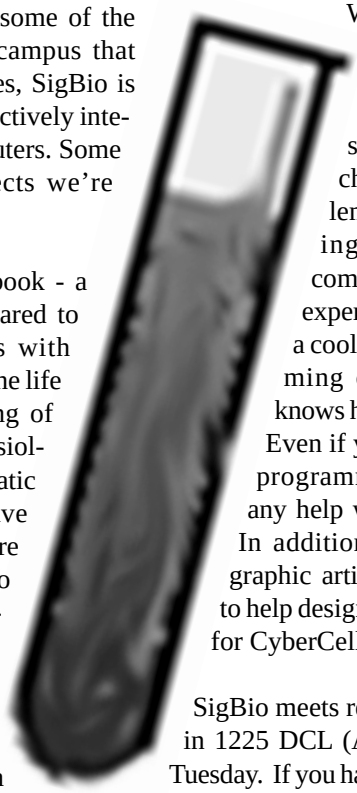
We look forward to seeing you, and have a great semester!

http://www.acm.uiuc.edu/sigdave/

SIG-BIO

by Romesh Kumbhani

So, you say you're grumpy, lethargic, and feeling anxious about the first day of classes? Well then, kick back with the guys and gals of SigBio - ACM's Special Interest Group for BioComputing. Unlike some of the other organizations on campus that deal with the life sciences, SigBio is the only one that tries to actively integrate biology with computers. Some of the interesting projects we're working on include:



• Virtual Anatomy Textbook - a WWW based tutorial geared to helping undergraduates with little or no experience in the life sciences or understanding of human anatomy and physiology. Currently the lymphatic and nervous systems have been completed and we're looking for other areas to document. Got suggestions? Mention them at the next meeting (see below).

• CyberCell - a program that models cell activity at the chemical level. In essence, one gives the cell some food and the computer shows what biochemically happens. Although this sounds quite boring, we hope to add some multimedia effects to make it more exciting.

• A new program that we plan on starting this year (in joint effort with SigVR) is a virtual reality walkthrough of the Gastrointestinal Tract. We need help with concept layout, graphics, biological accuracy, etc. Come join the fun, but it's recommended you don't eat cafeteria food before attending. Actually it's recommended that you never eat cafeteria food; want to find out why? Come to the meeting!

Wait, you say you're not a life science major? Or you don't know a ribosome from a mitochondrion? No problem. We're also looking for people with computer programming experience. What good is a cool computer programming concept if no one knows how to implement it? Even if you're still a novice programmer, please come; any help will be appreciated. In addition to programmers, graphic artists are also needed to help design the visual segment for CyberCell.

SigBio meets regularly at 6:00 PM in 1225 DCL (ACM Office) every Tuesday. If you have questions or new ideas for projects, don't hesitate to contact the SigBio Co-Chairs, Robert Hyslop (hyslop@uiuc.edu) and Romesh Kumbhani (kumbhani@uiuc.edu) or email sigbio@acm.uiuc.edu. See you Tuesday!

http://www.acm.uiuc.edu/sigbio/

Linux Users' Group

by Geoff Raye

The Linux Users' Group is one of the rebellious special interest groups of ACM which has decided to (GASP!) go without the prefix "SIG". Despite this, we've survived for three years, each year in greater numbers. We meet weekly to discuss issues of importance to Linux users as well as to provide a question and answer session for anyone who isn't quite sure how to solve a problem.

For those who don't know, Linux is a free version of the UNIX operating system. While it was originally written for Intel x86-based computers, the kernel now compiles and runs on a wide range of systems, including Sparcs, Alphas, and PowerPCs.

One of our current projects involves creating a Linux distribution designed to face some of the shortcomings we've seen in other distributions, such as Slackware and RedHat. In addition to the base distribution, we will also be providing compiled packages of software useful to U of I students, such as ph, Kerberos, and pppd.

We welcome new members regardless of experience and plan to meet Tuesday evenings at 8:30 P.M. in 1102 DCL when the fall semester begins.

http://www.acm.uiuc.edu/lug/

For more information on Linux, try these sites.

www.linux.org

sunsite.unc.edu/mdw/

www.acm.uiuc.edu/lug

SigMicro

by Paul Watts

Welcome to all the incoming freshmen, and to all the people returning for another year! I know everyone is just dying to get back to school and study hard, but before you run out to the bookstore and invest your future in your CS 125 textbook, I would like to take a moment of your time and introduce you to SigMicro and the WinDevils.

SigMicro is ACM's Special Interest Group for Microcomputing. We deal with PCs and PC operating systems-Windows and Macintosh. If you're interested in using or programming the Macintosh environment, you'll want to locate the MacWarriors' article located somewhere within this fine publication (or visit their web site at http://www.acm.uiuc.edu/sigmicro/macwarriors/). If you're interested in programming for Windows, though, keep reading.

The WinDevils are a subgroup of SigMicro and UIUC's *only* group devoted to programming for the Microsoft Windows family of operating systems. Our name is a both a contraction on "Windows Development" and a play on the general attitude toward Windows here on campus – which, in case you don't know, isn't particularly hospitable. Despite the stigmatization, the WinDevils are one of the largest and most active groups in ACM.

Last year we focused on game programming. Our one project last year, code-named *Titan*, is a multiplayer, networked 3D space combat game for Windows 95. While we didn't quite make our Engineering Open House deadline, one of our projects for this coming year is to continue developing the Titan codebase in order to give our members continued experience in game programming/design.

At the time of this writing, we haven't quite decided what other projects we might take on for next semester, but expect a continued involvement in game programming, as well as a focus on the Component Object Model (COM), Microsoft's distributed component software architecture.

We also sponsor plenty of workshops and tech talks-which include free giveaways of everything from pizza to Microsoft developer products, so watch out for those. In one of last year's tech talks, our audience walked out with over $3,000 worth of software!

So, I guess you're about ready to go buy your books and start reading ahead now. But, while you're paging through that fascinating reading, think about coming to one of our meetings, or visiting our Web site at **http://sigmicro.acm.uiuc.edu/windevils/.**

SigGraph

by Steve Mycynek

Computer graphics is what SigGraph is all about, and we're looking forward to a great year with many exciting events already planned. During weekly meetings, SigGraph discusses topics in computer graphics and also plans many different projects and events.

We have done award-wining exhibits for the Engineering Open House and continue to work on projects for it each year. We also produce the semiannual "Sounds and Visions" electronic music and animation concert with our neighboring computer group, SigMusic. This year, we will also be producing the second annual SigGraph traveling art gallery, which will contain the best works of all our members and will be displayed at various locations on campus.

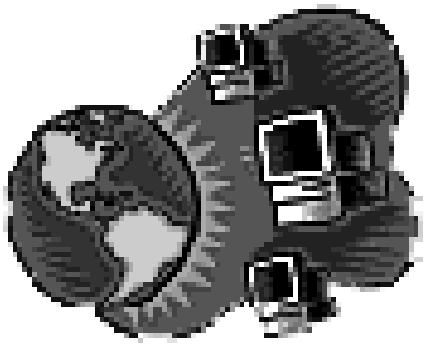
In addition to this, we also use our meeting times to discuss and design workshops and demonstrations of various software packages to help us learn from each other.

Starting soon, SigGraph will be holding a series of introductory workshops that will explain simple concepts in computer graphics aimed at a general audience with a basic knowledge of computers and three-dimensional geometry. Topics we will cover include vectors, flat-shading, frame-buffers, sprite-based animation, image editing in Adobe Photoshop, and three-dimensional modeling and animation with popular software packages such as 3-D Studio MAX, Soft Image, and Alias Studio.

Anyone is welcome to join us, especially those with experience in graphics software and programming. However, because computer graphics are such a big part of popular culture today and involve many different kinds of talent, we attract a variety of people from different backgrounds—both creative and technical. Don't think you're not enough of a computer expert to join.

For more information, e-mail SigGraph Chair Hans Van Slooten at vansloot@uiuc.edu or Co-Chair Steve Mycynek at mycynek@uiuc.edu, and see:

http://www.acm.uiuc.edu/siggraph/



SigNet

by Chris Sims

Hello! I'm Chris Sims, chair of the ACM@UIUC Special Interest Group for Networking. SigNet is group where people of varying experience levels and interests come together to have fun doing cool net-stuff, and maybe accidentally learn something!

Have a cool idea for a network related project? Want to take a tour of some really huge network installation? Need someone to explain what an IP address is and why you want one? Add yourself to the SigNet mailing list! Mail signetrequest@acm.uiuc.edu with 'subscribe' as the subject.. Alternately, send me e-mail at signet@uiuc.edu.

SigNet on the 'net:

- email: signet@uiuc.edu
- newsgroup: uiuc.org.acm.signet

http://www.acm.uiuc.edu/signet/

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File Edit View Build Debug Help

10 READ BANKS
20 GOTO PAGE_9
30 JOIN ACM
40 LET LIFE = GOOD
50 END
RUN
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campus phone:

home address:

home phone:

electronic mail:

curriculum:

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- ☐ junior
- ☐ senior
- ☐ m.a. / m.s.
- ☐ ph.D.
- ☐ faculty / staff
- ☐ postdoc
- ☐ alumni
- ☐ other

special interest groups

lug	linux users group
bug	be users group
sigarch	architecture
sigart	artificial intelligence
sigbio	biocomputing
sigbiz	enterpreneurship
sigcas	computers and society
sigdave	short-term distractions
siggraph	graphics
sigir	information retrieval
sigmicro	microcomputers
sigmusic	music
signet	networking and security
sigops	operating systems
sigsoft	software development
sigunix	unix programming
sigvr	virtual reality

MEMBERSHIP TYPES

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- ☐ $40 for eight semesters
- ☐ $22 for four semesters
- ☐ $12 for two semesters

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- ☐ yes — #
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- ☐ currently applying

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