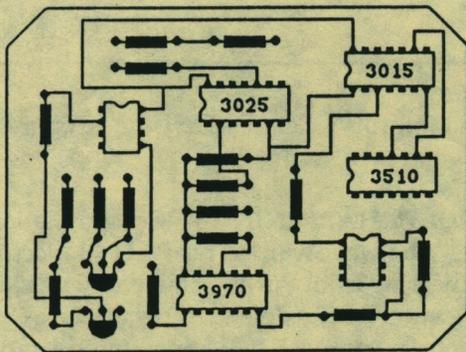


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CpE Circuit Board

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Department of Computer Engineering
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E.E. DEGREE PROGRAM PLANNED—CpE submitted a proposal to the UMD Curriculum Committee that seeks to add an electrical engineering degree (B.E.E.) to the CpE department. Following approval by the curriculum committee, the proposal goes on to UMD Administration and then to the U of M Board of Regents. With approval, the E.E. component could be in place as early as fall quarter 1990.

CONGRATULATIONS CPE GRADUATES—Fall graduates receiving the Bachelor of Computer Engineering degree are: Paul Guttormson, Daniel Krekelberg, Craig Lebakken, Rajiv Sharma, James Ternus, Farnaz Mounestoussi, Joseph Wendel, and Bryan Zell. Please inform the department when you accept an employment offer or are admitted to graduate school.

DEAN'S LIST FEATURES CPE STUDENTS—Thirty-nine CpE and pre-CpE students earned a place on the fall quarter CSE Dean's List for Academic Excellence: Salim Alam, Jonathan Andersh, Duane Averill, Dave Berthe, Michele Bertrand, Dan Blezek, Glen Booth, Duane Bourget, Robert C. Brown, Jeffrey Caron, Kevin Dehmer, Ghada Elzoghbi, Kenneth Erickson, Scott Fawcett, Kris Forsline, Michael Fort, Russell Gensing, Paul Guttormson, Brian Hamilton, Richard Harding, Andrew Jensen, Craig Lebakken, John Liptak, Stephen McMillan, Grant Midbrod, Farnaz Mounestoussi, Thomas Murphy, Robert Neff, Eric Nielsen, Thomas Pflingsten, Ronald Pietila, Matthew Plante, Thomas Schaefer, Eric Schlueter, Erin Swieringa, Wade Vanguilder, David Weinzierl, Jeffrey Wilson, Mark Yadlosky. Congratulations!

IEEE MEMBERS ELECT NEW OFFICERS—The 1990 officers for the IEEE Computer Society student branch chapter at UMD are: Ross Phенning, Chairperson; Tom Schaefer, Vice Chair; Rob Neff, Secretary; and Curt Peterson, Treasurer.

The IEEE branch chapter featured Oliver Houx from Minnesota Power Personnel Department at the December IEEE meeting. Houx spoke on interviewing techniques. At the January meeting, Linda Schwartz, department editor, presented information on résumés for engineering internship positions. IEEE-sponsored peer advisement sessions were held on February 2.

In December, the Career and Placement Office sent out the second annual edition of the *Resume Book* (produced by the IEEE student branch) to potential employers of engineering graduates. The response to the book has been positive with many firms contacting the Placement Office or students directly for interviews. (Any former CpE students who would like a copy to give to personnel or engineering staff in your firm please contact the CpE office, 271 MWAH.)

The Student Professional Awareness Conference (S-PAC) will be held April 26th. This is the second S-PAC for the UMD campus. The conference will be jointly hosted by the IEEE Computer Society and members of the IEEE Student Branch (Industrial Education). Planning committees have been formed, and the immense amount of work that this event requires is beginning for IEEE members. "We are in the process of contacting potential sponsors and speakers for the event," reports Ben Lhotka, chair of the S-PAC committee. "The planning is made easier since S-PAC was done here two years ago; still the time commitment from students is demanding." Any alumni with advice, money, etc., to contribute, contact the IEEE officers!

CPE ALUMNI RESPOND TO SURVEY—Thirty CpE graduates responded to a survey sent out last fall designed to determine interest in 1) a CpE alumni group, and 2) a CpE reunion. The response was a near unanimous interest in both ideas. Most respondents favored a reunion scheduled during the summer months, but a December reunion was also

popular. The department will work with the UMD Alumni Office to organize both a CpE alumni group and a reunion. Any alumni with ideas or who would like to assist with planning, please call 218/726-6147 or write the CpE office. Thanks to all of you who responded. If you haven't returned your survey, please do! We want to hear from you.

GRADUATES UPDATE—**Lourn Finander** (Winter '89) began employment Jan. 8 with Hughes Ground Systems Group in Fullerton, CA. He joins the technical staff of the Surveillance and Sensor Systems Division. **Richard Gerhardson** (Spring '89) went to the other coast to take up employment with Schindler Elevator Corp. in Morristown, NJ. He works as associate electrical engineer in the Control Development Engineering Division where he designs microprocessor based controls for elevators. (Rick says to contact him for employment possibilities with Schindler.) **Jeff Vitullo** (Spring '89) stopped by while he was in Duluth during Christmas break. Working as associate engineer in the Electronic Systems Engineering Space Systems Division of Lockheed Missiles and Space Co. (Sunnyvale, CA), Jeff develops CAE packages for in-house ground and flight electronic devices. Loves his work, misses Minnesota. **Mark Chmielewski** (Spring '87) recently transferred to GTE's Bridgeport, NY facility where he works as software engineer. He and wife Sara will be there for about a year, and then they hope to go to Europe. Says Mark, "Work is exciting and interesting and GTE is a good employer. They would be interested in hiring graduates from UMD." If any students are interested, Mark would be glad to help; contact him through the CpE office. **Dan Kollodge** (Winter '89) is working for an engineering firm in Plymouth, MN. **Paul Guttormson** (Fall '89) began work in January as software engineer at E-Systems, Houston, TX, in the Control Division. To all of you: thanks for writing, calling, and stopping by our office. Your news is department news, and we applaud your successes. Keep us informed—use the editor's electronic mail (elm) address for fast action!

STUDENT NEWS—CpE seniors **Steve McMillan** and **Ben Lhotka** were awarded University Research Opportunities Program grants in December. Both will work under the supervision of **Dr. Farag**. Steve will investigate linear and nonlinear techniques for multidimensional signal recovery, and Ben will research the effects of motion on a wrist band designed to measure respiration and heart rate.

Jeff Wilson, CpE senior, will graduate winter quarter and head to Arlington Heights, Illinois in March to begin employment as a computer engineer

with Motorola's Cellular Division. Congratulations and good luck, Jeff!

FACULTY HAPPENINGS—Congratulations to **Aly Farag** who was awarded his Ph.D. in Electrical Engineering from Purdue University this January. Farag successfully defended his thesis "A Stochastic Modeling Approach to Region- and Edge-based Image Segmentation." His research centered on the use of statistical image modeling for segmentation and feature extraction. A theoretical basis for region- and edge-based image segmentation was examined, and new algorithms for object boundary allocation based on random field models were introduced.

CpE submitted two proposals to the National Science Foundation Instrumentation and Laboratory Improvement program in November. Funds for development of a VLSI Circuit Design Lab were requested by **Christopher Carroll**, associate professor. **Thomas Ferguson**, adjunct instructor and supervising engineer with Minnesota Power, requested funding for equipment for a High-Speed Fiber Optics/Digital Transmission Lab. Both labs are intended for use in undergraduate classes.

Taek Kwon, assistant professor in CpE, has been awarded a 1990 University Faculty Summer Research Fellowship to support his research on stable learning algorithms in feed-forward networks for binary logic. Kwon and **Dr. Carroll** submitted a paper entitled "Optimization for Precision in Speed Measurement Using a Microcontroller" to the 21st Annual Conference on Modeling and Simulation.

Nazmi Shehadeh, professor and head of CpE, was in Washington D.C. in January to review proposals for the National Science Foundation Instrumentation and Laboratory Improvement Program. Dr. Shehadeh also has made several presentations to local and regional industry groups on the proposed electrical engineering program.

Clark Thomborson, professor in CpE/CS, delivered a seminar to the computer science faculty, students, and industrial affiliates at the U of M Twin Cities campus. His topic was "Shouldn't a Cray Be Much Faster Than a Workstation?" Thomborson provided input for the *Minnesota Daily's* five-part series entitled "Special Report: The Army Grant," which ran in November 1989. He also contributed information for the article "U.S. Computer Research's Basic Dilemma," which analyzes the effects of government support of defense-related research in the computer sciences. The article appeared in the December 1, 1989 issue of *Datamation*.

Giann-Shiou Yang, assistant professor in CpE, published a paper (with William Levine) entitled "H[∞] Control for Sampled-Data Systems" as a technical report for the System Research Center of the University of Maryland, College Park.

CAREER & PLACEMENT SERVICES—In January, Career & Placement Services brought two recruiters to UMD who interviewed CpE students for possible engineering job after graduation. Recruiters from EDS and U.S. West both had positive comments about our students and our CpE program. U.S. West's recruiter Terri Enrico hopes to tour the department in the fall. Students must sign up with Career and Placement in order to be eligible for on-campus interviews for jobs and internships. C & P offers many helpful seminars, including a Job Search Skills seminar on Saturday, March 24, 9-noon.

INTERNSHIP INFORMATION—Juniors and seniors: Now is the time to send out applications for summer internships. Don't delay! Linda Schwartz (189C MWAH) maintains a list of firms to contact and can help you with résumés, cover letters, etc. Internships in your field while you are a student will help you land that first job following graduation. (Note: Please let Linda know when you accept an internship position.)

CRAY DONATION—Cray Research Corp. and Foundation recently donated funds to the CpE department for purchase of equipment for the High-Speed Fiber Optics/Digital Transmission Lab planned for the department. A proposal to help fund this lab is pending with NSF. Thanks to Cray for their support of undergraduate engineering education at UMD.

COOPERATIVE EDUCATION EXPLORED—The department editor and Julie Westlund, director of Career and Placement Services traveled to North Dakota State University in December to gather information about NDSU's highly successful Cooperative Education program. Co-op Ed is an educational plan in which students work for six months in their field and attend school for six months while still enrolled in school. Most engineering programs in the country offer the co-op option, and CpE and Placement Services are studying the feasibility and advantages of cooperative education at UMD.

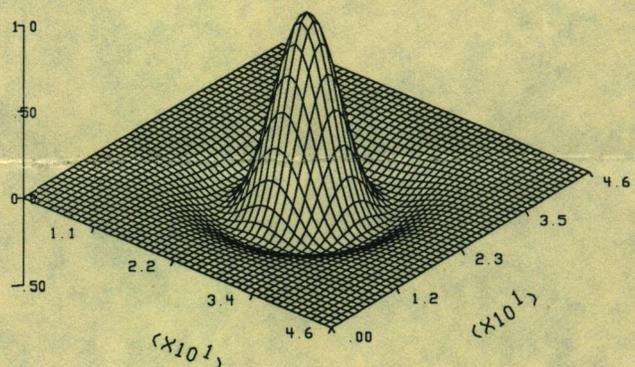
ENGINEERS IN DEMAND—Two reports from researchers at Northwestern and Michigan State on the hiring patterns of employers indicate that engineering students graduating this year can expect to earn higher salaries than graduates in other fields.

Engineers are also expected to have an easier time finding employment. (*Chronicle of Higher Education*, Jan. 10, 1990.) And from *Engineering Education News* (Dec. 1989)—Results of a survey of professional women engineers conducted by Cooper Union's engineering school indicate that 90% of the responding 2,077 professional women engineers reported a high degree of job satisfaction. Satisfaction was based on having interesting, important, and well-paying jobs in a respected profession.

GRADUATING SENIORS—Be sure to register with Placement Services. The task of bringing recruiters to campus is made easier when Placement can tell firms how many students will be graduating and thus how many students recruiters can expect to interview. Get it? More students registered with Placement Services means more recruiters on campus. Seniors: please stop by 271 MWAH and tell Carol Skoglund, executive secretary, if you will graduate spring quarter.

CPE LABS—CpE labs are available to students outside of class time only after the student signs up for a specific block of time and checks out the key from the department office during normal office hours. A \$10 charge is assessed for lost keys.

CPE ADMISSIONS—Admission to the CpE program can now be accomplished directly through the CpE office. Materials are available in Mailbox 39.



LAPLACIAN OF THE GAUSSIAN FILTER

Graph plotted using the multidimensional plotting package under development by Dr. Farag and Yuenpin Yeap, CpE student.

Cherokee Anderson
UMD Library Archives